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George M. Smerk, Jr. **The Northern Indiana Commuter Transportation District: A Tenth Anniversary Report**

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The continuing saga of the South Shore line is not equal to the popular nighttime soap operas. Yet some of the same elements, save raw physical passion, are present in both. Once again, I.U. Professor George Smerk takes us into the closed chambers to see the fate of a once-mighty enterprise decided by the compromises of conflicting forces.

A far greater drama is being staged quietly in Indiana as communities prepare for the 1990 Censuses of Population and Housing. Carol Rogers and Jerry McKibben have been traveling the Hoosier state to help localities be ready for THE DAY, April 1, 1990. The number of persons counted on that day will help determine our joint destinies for the decade to come.

This is the first issue of the Indiana Business Review under the skilled hand of Brian Burton. He follows in a long line of distinguished Managing Editors and we expect that his mark will be as great as any of his predecessors. And if successful, none will note as all credit will go to the authors and the undersigned.

MJM

The Northern Indiana Commuter Transportation District: A Tenth Anniversary Report

George M. Smerk, Jr.

Professor of Transportation, Indiana University School of Business, and the governor's trustee to NICTD since 1977.

A decade ago the Chicago South Shore & South Bend Railroad, the United States' last electric interurban railway, cited severe passenger operating losses in petitioning the Interstate Commerce Commission to discontinue all commuter service between South Bend and Chicago. In April 1977, the ICC required the railroad to continue passenger service until February 1978, enough time for the state of Indiana to begin rescue efforts. In June 1977 the Northern Indiana Commuter Transportation District (NICTD) was founded under enabling legislation passed by the 1977 Indiana General Assembly. Operating under the new state law, NICTD was created by action of Lake, Porter, LaPorte, and St. Joseph Counties to oversee South Shore commuter passenger service and provide public financial support for it.

During its first meeting, the NICTD board decided that preservation of rail passenger service was essential to the economy of Northwest Indiana. The NICTD maintained service by partially subsidizing operating losses with state and federal funds; to improve service, NICTD began the federal-grant process to purchase new rail passenger cars that would replace equipment dating to the 1920s and operating well beyond its economic life.

With strong staff support from the Northwest Indiana Regional Planning Commission (NIRPC), NICTD put together a small but highly dedicated staff to carry out the tasks. By January 1981 the improvements began to manifest themselves, as the first new commuter car arrived for testing, and NICTD began to fully subsidize South Shore's passenger losses. All South Shore commuter service is operated by the railroad under contract to NICTD. The district owns all the passenger rolling stock, has control of service levels and fares, and has the right to audit the railroad company.

The most visible improvement was the new cars. A total of 44 shiny, 85-foot-long, stainless steel, electric, multiple-unit, rail commuter cars were ordered from the low bidder, Nippon Sharyu Siezo Kaisha, a Japanese company famed for building the Bullet Trains. Not so visible to the public were improvements NICTD made in the maintenance facilities. A new overhead crane was installed in the shops, along with a drop table to enable quick changes of wheels and motors and a wheel-truing machine that made it possible to remove flat spots in the wheels without removing the wheels from the cars. The building itself was upgraded significantly for the first time in more than 50 years and a parts-storage addition was constructed. The shop building and car-inspection and servicing pits were lengthened to handle the new, longer cars.

In June 1977 the Northern Indiana Commuter Transportation District (NICTD) was created to oversee the operation and provide for public financing of South Shore commuter passenger service.

Also invisible to the public were new, solid-state, high-tech electrical substations that transformed high-voltage alternating current into the 1500 volts DC used as traction power by the South Shore trains. Miles of copper feeder cable as big around as a man's arm were installed to improve the flow of power along the electric railroad. A computer-controlled power distribution system also was installed to smooth out the supply of power to the railroad.

Other visible improvements along the South Shore included a new Gary station and the elevation of the South Shore tracks through downtown Gary, both done to help improve the South Shore's service in that city. This was not a NICTD project but a joint effort of the Indiana Toll Road Commission, the City of

Gary, and the Federal Highway Administration, in conjunction with the construction of new ramps to the Indiana toll road. Very much a NICTD project was a new station and headquarters building at Dune Park, where Indiana 49 crosses U.S. Route 12. A comprehensive plan has been developed for station and parking improvements in other places along the South Shore line. These will be carried out as funding becomes available.

By Thanksgiving of 1983, all service on the South Shore was being operated with the new cars, and a new era of service to Northwest Indiana was under way. Before long, two problems developed, largely as a result of the NICTD-sponsored improvements. Serious overcrowding of South Shore trains occurred during the rush hours. By 1984 it was not unusual for a six-car train with 558 seats to have 1000 passengers on board at rush hours. Indeed, of all the commuter railroads operating in the Chicago area, the South Shore trains were the most overcrowded, and even the off-peak trains were the most utilized of any Chicago commuter railways. This problem was both gratifying and troublesome; South Shore ridership had been declining for years before NICTD involvement, but with the improvements ridership rose from 1.5 million riders in 1978 to 3 million riders in both 1985 and 1986.

Another problem was poor on-time performance from 1981 to 1985. This was caused in large part by speed limitations on the Illinois Central Gulf line upon which the South Shore service is operated between 115th Street and Randolph Street Stations in downtown Chicago. Construction work on the expansion of McCormick Place, which is built on air rights above the tracks, also slowed trains throughout the day.

The district worked first to correct the overcrowding. Until the summer of 1985, the Illinois Central Gulf had refused to let eight-car South Shore trains onto its line, claiming it would be too severe a drain on the ICG electrical substations. Difficult negotiations with the ICG finally ended in success and because NICTD cars were designed to be stingy in power utilization, ICG fears proved groundless. Starting in July 1985, four rush-hour trains were regularly operated with eight cars. Furthermore, an additional train was put into the morning schedule between Hegewisch and Randolph Street to help cure the serious overcrowding facing Hegewisch passengers on the other rush-hour trains.

Over the past decade, the South Shore has faced the serious overcrowding of trains, poor on-time performance, and a severe equipment shortage due to accidents.

To lessen the number of late arrivals, schedules were stretched so that trains left stations earlier in Indiana in order to arrive on schedule in Chicago. On-time performance, while still not satisfactory to NICTD, rose to better than 90% after a period when some months saw less than 60% performance.

The NICTD faced a severe equipment shortage after a series of accidents put a number of the new commuter cars out of service for major repairs. The most dramatic of these accidents was a head-on collision between two South Shore trains on January 21, 1985, just to the west of the Gary station. Two cars were irreparable at reasonable cost. The Regional Transportation Authority of the Chicago area (RTA) has been very helpful; this time it came to the rescue by leasing NICTD a double-decker, push-pull, diesel-powered train. This will continue in service until either sufficient South Shore cars can be returned to operating condition to meet demand, or additional electric multiple-unit cars are acquired. Other major damage to the car fleet occurred on October 30, 1986, and on April 1, 1987. One car from the October wreck has also been deemed irreparable.

At the beginning of a pictorial trip along the South Shore Line, a train rolls by Hudson Lake Station. This and all other photos in this article by Don Kaplan.

The problems noted above were the simple ones. The serious problems facing NICTD were the financial ones. Coming into office in 1981, the Reagan Administration immediately announced its aim of doing away completely with federal operating aid for urban mass transportation by 1984. While the White House has never succeeded in *eliminating* transit operating aid, it has managed to cut the amount of money available, in part because Congress has had to lower appropriations to help control the skyrocketing federal deficit. The administration's posture caused NICTD strong concern about future Indiana rail commuter service.

The Reagan Administration has substantially cut federal operating aid for urban mass transportation.

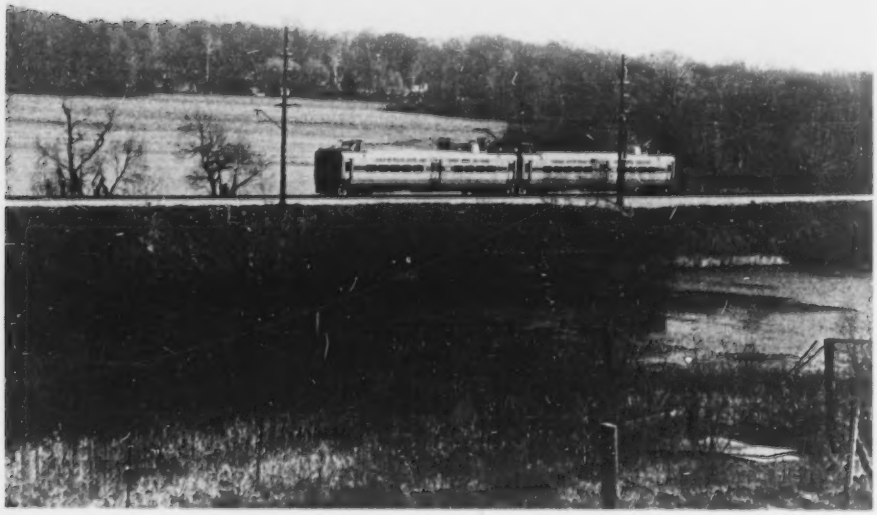
While federal aid has been waning, NICTD has received generous help from the State of Indiana. In addition to funds from a state program that supports all Indiana mass transportation, two special funds provide NICTD with money to cover operating costs and help match federal operating and capital grants. Even so, it was clear by 1983 and 1984 that the state felt that it had done enough for the South Shore commuter service, and that responsibility for covering the shortfall created by federal cuts rested with some other area, possibly with local government in Northwest Indiana.

In 1983 NICTD proposed buying the South Shore Railroad, owned by the Chessie System since 1967. The South Shore enjoyed a profitable freight service, and NICTD's idea was to purchase the railroad, hire a competent staff to manage it, and use the freight profits to help counterbalance the inevitable passenger financial losses. The district had been raising fares steadily since 1980 and was covering close to 60% of costs out of the farebox, well above the national average. However, raising fares too sharply all at once would drive passengers away.

Hard lobbying in the Indiana General Assembly in 1984 won NICTD the powers to buy the railroad, powers that would not become effective until May 1, 1985. Governor Robert D. Orr's signature was barely dry on the legislation when a new investor group, the Venango River Corporation (VRC), purchased the South Shore from the Chessie System. In its efforts to find additional sources of funds, NICTD was back to square one and losing ground.

Shortly after the purchase of the South Shore by VRC on September 28, 1984, NICTD became concerned about sharply rising operating costs. Because of the continued cuts in federal operating money, NICTD management and trustees feared the district would not be able to pay its contractual obligation to the railroad.

So serious was the operating cost increase under VRC ownership that, by the autumn of 1985, NICTD felt that it was in serious danger of defaulting on its payments to the railroad. It was then decided that NICTD would approach the 1986 General Assembly for local taxing authority in order to provide the support necessary to keep the commuter service running. The NICTD was unique among major Indiana public transit bodies in that it had no local taxing authority. However, instead of giving NICTD local taxing authority, the Indiana General Assembly created a legislative study commission to determine if the rail commuter service was really necessary to Northwest Indiana (after $70 million had already been spent on capital improvements alone). The study commission also was to determine whether the railroad and NICTD were each doing their respective jobs well. Because of the apparently serious threat to the continuation of the service, the General Assembly saw to it that a loan of $2.6 million was arranged for NICTD from the state's Public Deposit Insurance Fund (PDIF). Part of the loan was used to pay for the costs of the legislative study commission, which NICTD had to bear.



Crossing a lake near Hicks.

As 1986 wore on, it appeared that the financial situation was becoming more serious and more threatening to the continuation of the passenger commuter service. The South Shore Railroad's costs, which NICTD had contracted to repay, were exceeding the NICTD budget for 1986 by over $100,000 a month. In August 1986 the Commuter District proposed sharp cutbacks in service to save a million dollars, a necessity considering the costs, and to ward off default. Under the proposal to the Interstate Commerce Commission, the 37 trains a day operated at that time would be cut back to 17 trains a day, with operations only at rush hour. Weekend and holiday service would be suspended. In late August, at a dramatic public meeting of the NICTD board, the South Shore railroad offered to continue operations on the basis of the existing contract on a fixed-price basis. This offer was good until the end of the General Assembly session on April 30, 1987. It was hoped that the 1987 General Assembly would legislate local taxing authority for NICTD to assure continued passenger service. NICTD accepted the railroad's offer and pushed back the date on the train-off petition to the ICC until the end of April, 1987.

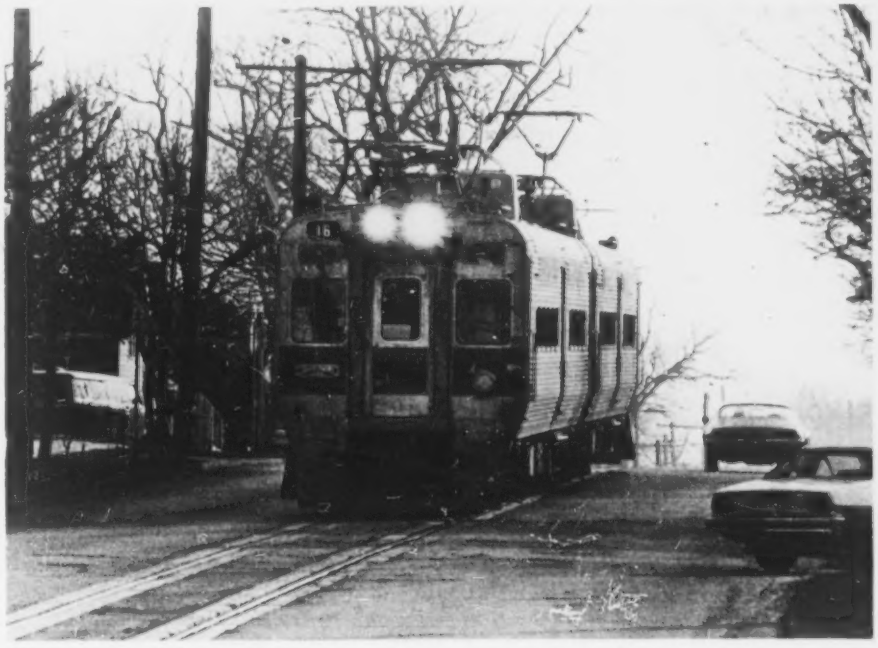
Through the spring and summer of 1986, the legislative study commission labored on. It hired an experienced consulting firm to conduct a detailed study, and carried out a series of public hearings in Northwest Indiana. The study commission reported in the fall of 1986 that the South Shore commuter service was indeed necessary, since it was responsible for at least $70 million in salaries and wages, earned in Chicago, that were brought back to Indiana each year. The commission also reported that NICTD had competently managed the service. Indeed, NICTD was faulted mainly for not doing a better job of marketing the service. Marketing wasn't necessary for the rush-hour trains, which were already overcrowded, but the consultants urged a better selling job for the off-peak trains in order to help boost revenues at virtually no additional cost. Furthermore, the consultants and the commission felt that NICTD had not sufficiently sold the idea of local taxes to the public and elected officials in Northwest Indiana. NICTD may have done too good a job in arranging for special state aid programs. Perhaps the local officials had come to believe that, whatever the problem, the State of Indiana would come to the fiscal rescue of the South Shore commuter service.

By 1986, the local officials had perhaps come to believe that, whatever the problem, the State of Indiana would come to the fiscal rescue of the South Shore commuter service.

Legislation was introduced in the 1987 General Assembly to provide local tax support. With such support, NICTD hoped to control the skyrocketing costs of the railroad by no longer automatically contracting with the South Shore to operate trains. Instead, NICTD would seek bids from management companies to manage the actual operations of the railroad. It was expected that Amtrak, Metra, some other private railroads, the South Shore Railroad, the professional transit management firms, and perhaps a management company formed by the railroad unions would all bid on the operating contract. Competition between the bidders would assure the lowest possible price for the service.

The key to a competitively bid operation was a trackage-rights agreement with the South Shore. Under such an agreement, NICTD would pay a predetermined fee for use of the trackage, and the successful bidder would operate the service. In addition, over a period of several years, NICTD would buy all of the passenger assets from the railroad.

In the pull and tug of legislation in the 1987 General Assembly, the South Shore Railroad sought largely to relieve itself of NICTD's surveillance. The South Shore worked with several legislators to find some way of getting sufficient funds to either provide the service or protect it-



At 11th and Oak Streets in Michigan City.

self against losses. The railroad made an offer proposing that it receive no subsidies in return for not having to deal with the district, charging that NICTD was looking over its shoulder and trying to tell it how to do business. The South Shore wanted guarantees of public money to pay for certain things not under its control, such as the Illinois Central Gulf trackage lease agreement, the traction power used to propel the trains, and liability insurance. The costs involved would be about $3 million to $5 million per year. The railroad wanted full control over fares and service levels. If NICTD remained in existence, it would be only a pass-through agency to provide the money for the aforementioned guarantees. The legislators supporting the position assumed that the South Shore would continue the NICTD's level of service. The railroad had discussed sharp fare increases, but it later agreed to eschew fare hikes of 55% for an increase of 5% a year and hikes above that if costs went up sharply.

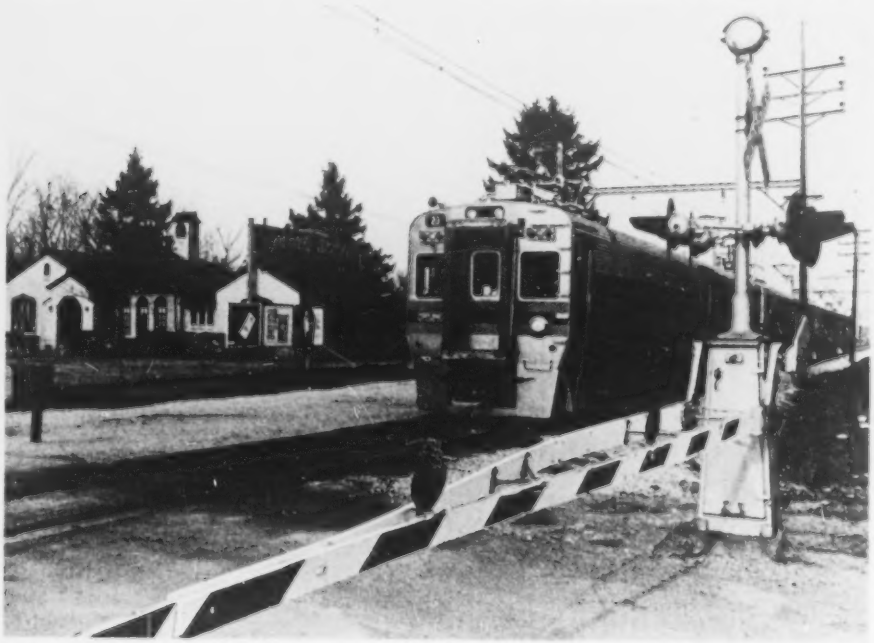
The railroad's position was understandable because in the winter and spring of 1987 it was attempting to purchase the so-called "Kansas City line" from the Illinois Central Gulf Railroad, a line the VRC would name the Chicago, Missouri & Western. In essence the CM&W was the old Chicago & Alton Railway, which the ICG had purchased in its merger with the Gulf, Mobile & Ohio Railroad in 1971 and 1972. The VRC envisioned the possibility of a service from Kansas City through Chicago to South Bend; this would be a most attractive route for freight, because while it would run through Chicago it would bypass the crowded switching yards in that city. The problems with NICTD payments would affect the South Shore's cash flow and have a serious negative impact on South Shore's negotiations with the ICG. At the same time, it would be very beneficial to South Shore management if NICTD could continue to make payments on a timely basis. A sore point was the delay factor; NICTD never missed a payment, but until the loan from the PDIF was made, in the fall of 1986, NICTD was usually at the contractual limit of six months "late" in paying. This delay reflected NICTD's own cash-flow problems.

An audit of the South Shore, completed in the fall of 1986, revealed that NICTD's financial plight was not so bad after all.

In a remarkable change of events in January and February of 1987, NICTD discovered that its financial plight was not so bad after all. A key factor was the NICTD financial audit of the South Shore for the year 1985. The district began this complex audit in June 1986, and it went on through the fall of that year. The CPA firm employed by NICTD reported that the South Shore had charged NICTD $2.2 million more than was called for under the cost-allocation agreement between the two parties. This was finally settled in early 1987 with NICTD being relieved of paying more than $1.8 million to the South Shore.

Concurrently with this, NICTD negotiated an adjustment of funds with the Regional Transportation Authority in Chicago. The RTA needed more federal capital dollars while NICTD needed more federal operating dollars. (The federal block grant money goes to the Chicago and Northwest Indiana urbanized area and is earmarked for different uses). It has been expected that NICTD would get only $1.8 million; happily, negotiations produced $3 million. Thanks to the audit adjustment and the RTA negotiations, NICTD's financial picture brightened greatly. Instead of being in danger of running out of funds, NICTD had sufficient money to continue paying for the passenger service through all of 1987. Given some cost control on the part of the railroad and perhaps a small fare increase, NICTD could continue to pay for the service through 1988.

The VRC's plans for acquiring ICG's Kansas City Line, and indeed the rail-



Stopped at the Beverly Shores Station.

road's future, were in jeopardy if the General Assembly did not provide some sort of aid to bear the costs of the passenger service. To force the issue, it petitioned the Interstate Commerce Commission on March 18, 1987, to discontinue all passenger service effective April 30. NICTD immediately counterpetitioned, requesting that the ICC investigate the situation thoroughly. The NICTD position was supported vigorously by Governor Orr, U.S. Senators Richard Lugar and Dan Quayle, and First District Congressman Peter Visclosky. Members of the General Assembly reacted strongly, feeling the railroad was putting a gun to their heads. Further reaction came when the legislators found that the South Shore intended to reduce passenger service by a third or more, contrary to their assumptions. The sympathy and support which the railroad had enjoyed early in the session evaporated. Indeed, a piece of pending legislation was amended to mandate NICTD's condemnation of the South Shore property if the railroad ever again sought to discontinue passenger service.

At the end of the 1987 General Assembly, there was still no taxing authority for the Commuter District. The basic flaw in the original legislation remained. Months of vigorous and difficult work and fretful negotiation produced little of real worth.

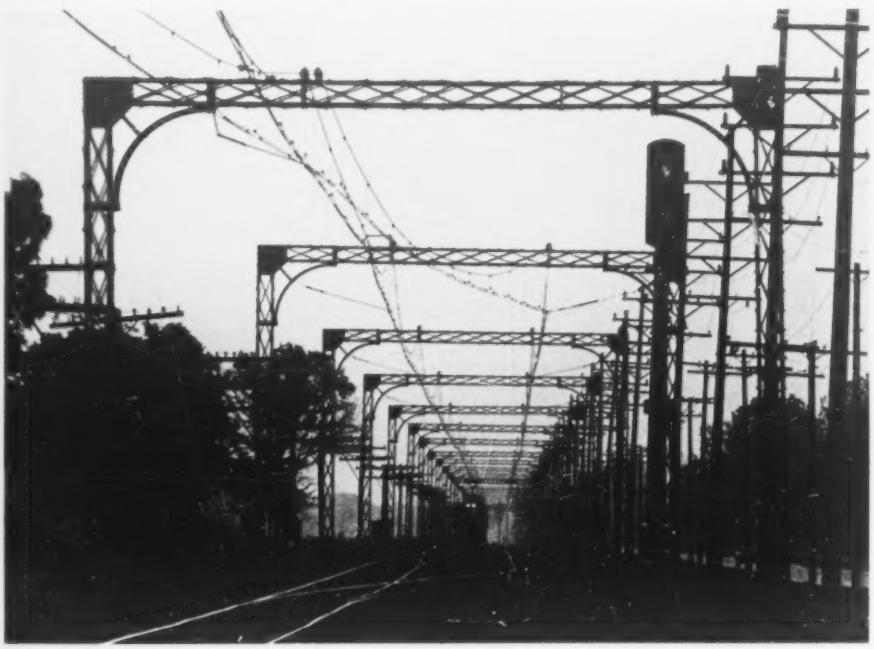
The commuter service is a vital link between the residents of Northwest Indiana and the steadily growing job market in Chicago's central business district.

In establishing the legislative study commission to examine rail commuter service in Northwest Indiana, Governor Orr had charged that group and the 1987 General Assembly to find a solution to the financial cliff-hanger that had faced NICTD since the federal cutback began. The General Assembly mountain labored and gave birth to a mouse. A bill that finally passed imposed fussy, largely useless red tape. The NICTD board was enlarged to nine members by the requirement that the presidents of the four county councils, or their appointees, serve. It was hoped that this would help sensitize the fiscal part of county government to the service's worth and NICTD's need for local tax support.

While the 1987 General Assembly was thrashing with the problem, individual members urged the South Shore and NICTD to negotiate. Some even threatened to mandate negotiation. That was not necessary because by mid-April the two parties were working together. By the end of April the contract has been extended to the end of 1987 with any of the three parties—NICTD, South Shore, and the Chicago RTA—eligible to initiate extension of the contract through 1988. The contract is of the not-to-exceed variety and requires NICTD to supply $6,150,000 to support the South Shore passenger service. The district estimates it will have $6,400,000 available and, because of increasing ridership, the level of NICTD revenues may reach as high as $6,700,000.

In the long run, some form of local tax support for the South Shore rail passenger operation is necessary if this valuable service is to continue to enrich Northwest Indiana's economy. The $70 million annual direct benefit to Indiana in wages and salaries is but a part of the role that the South Shore commuter service, supported by NICTD, plays in the region. In the near future, the economy of Northwest Indiana must make major adjustments if it is to recover from the devastating impact of the serious decline in heavy industry that affected all America in the 1980s. Northwest Indiana, perhaps hit worst of all, was a microcosm of the painful adjustments affecting the entire U.S. economy.

The commuter service is a vital link, a lifeline to the steadily increasing job market in the Chicago central business district for the current residents of Northwest Indiana. The passenger service is also an excellent selling tool for others employed in downtown Chicago who



On a siding in Gary.

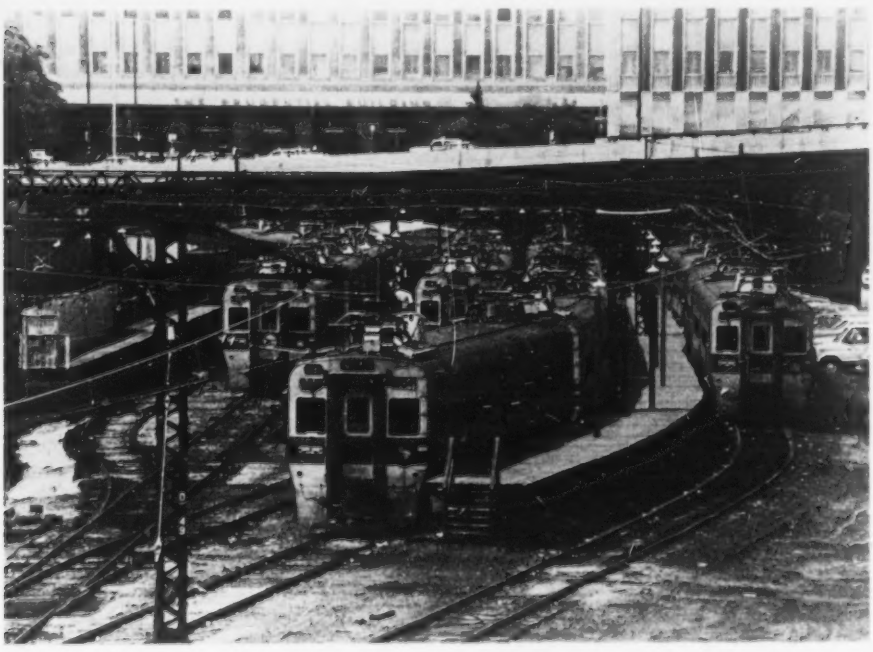
wish to live in a pleasant place at relatively low expense in comparison with the highly developed and often highly expensive suburban areas in Illinois. The South Shore commuter service, avoiding the badly overcrowded highways leading to the Loop, provides both a critical link in joining Indiana with Chicago and a good reason for more people to live in Indiana and lend their economic strength to the region and the state. The NICTD-supported South Shore passenger service is a major asset.

After two difficult years, NICTD intends to adopt a vigorous, future-oriented posture. In the next few years NICTD will seek to further animate the regional economy. A new terminal in South Bend is one major step, and stations will be renovated or newly constructed at Hammond, Michigan City, and East Chicago. Improvement and enlargement of the parking lot at East Chicago is in the advanced-planning stage. Other smaller-volume stations will be upgraded as well. The RTA is planning major improvements in the busy Hegewisch Station in Illinois, and after much delay, renovation of Randolph Street Station has begun. The NICTD probably will make some of its improvements in conjunction with private developers to relieve the public purse as much as possible of expenditures for station improvements and security.

The challenge of the Third Millenium lies only a few years ahead. Given adequate support, NICTD can help the Northwest Indiana economy in facing this challenge.

Additional commuter cars, to relieve overcrowding and permit operation of additional trains or longer trains, are a vital part of the future service picture. District management started discussions with car builders in September. New grade-crossing protection is important to make the railroad safer, especially in light of several serious grade-crossing accidents in recent years. Such protection is also vital to a speedup of the service to help reduce travel time and compete better in the market area. A newly catenary system (the catenary is the overhead wire above the tracks that carries the electricity to operate the trains), less subject to breakage in bitter cold weather, and a new signal system, to permit higher speeds and safer running, also are major capital improvements for the near future. The district will investigate some expansion of service through more tie-ins with local bus service and it will study extending NICTD rail service along existing rail lines into the southern parts of Lake and Porter counties.

The service improvements and expansion are key factors in the future economy of Northwest Indiana. NICTD will be working hard in the near future to carry its message to the public and to local and state officials. Given adequate support, NICTD can help strengthen the economy of the region it serves to face the challenge of the Third Millenium only a few years ahead. □



At the end of its journey, the Randolph Street Station in Chicago.

Local Review Programs and the 1990 Census

Carol Rogers and Jerry McKibben

Carol Rogers *is external programs user services coordinator, and* ***Jerry McKibben*** *is a research demographer, for the Indiana Business Research Center.*

The 1990 decennial census will mark the twenty-first time in U.S. history that the American population will have been counted and analyzed. The census' roots are in the Constitution, so it is appropriate that this article appears in the year of its bicentennial. When the delegates to the Constitutional Convention convened in 1787, they decided that the distribution of the population would serve as the basis for taxes and representation in the lower house of Congress. Article I, Section II therefore requires that a count occur at least once every 10 years, a wording that has encouraged some groups to lobby for a census every five years. Since 1790 the census has charted America's growth and development, helping both the public and private sectors plan and allocate resources.

Preparation for the 1990 census began six years ago at the U.S. Bureau of the Census. Because accuracy is a primary objective, the bureau is taking steps to improve coverage for 1990 by heightening awareness and improving procedures, thus reducing the possibility that people will be missed. (The estimated undercount was 3.5% in 1970, 2.0% in 1980).[1] Local governments have an opportunity to ensure complete coverage by participating in local review programs, in which they review housing-unit counts both before and after the census is taken.

Indiana has a major stake in a complete count. The apportionment of seats in the House of Representatives, the allocation of federal funds, the redistricting of the state legislature, planning and funding for education, social services, and infrastructure maintenance and improvement, all are based in part on the number and kinds of people living within its borders.

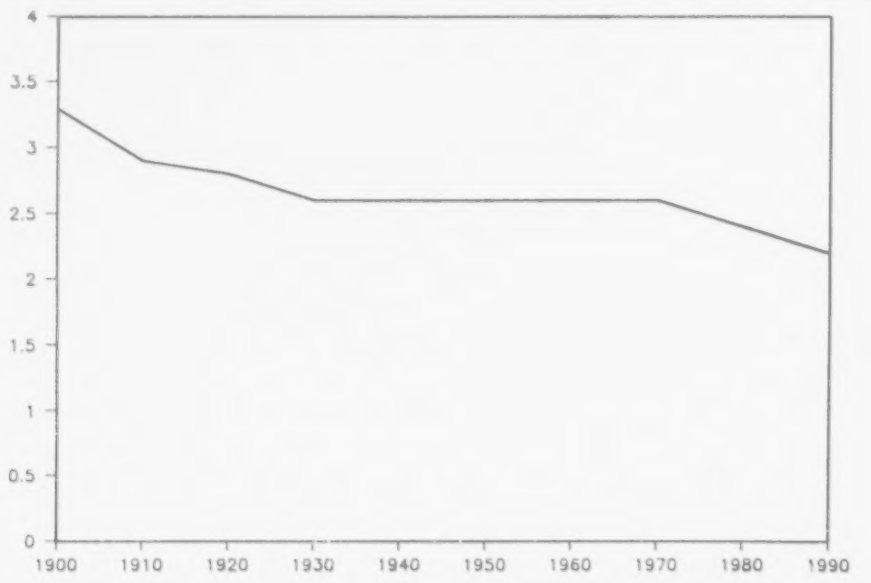
The Need for a Complete Count

While the census' primary purpose remains the apportionment of seats in the House of Representatives, over the past 50 years the census has found other uses that are equally important. Billions of dollars are allocated to state and local governments, through more than 80 federal programs, based on the population and its characteristics. These include wastewater-disposal grants, economic-development grants, health planning, social-service block grants, highway construction, education, and aid to the handicapped.[2] Indiana's share in 1985 of the federal pie averaged $126 per person, or about $700 million a year. Most of these funds are paid directly to the appropriate government and assist in providing basic social services to local citizens. Thus, census accuracy is an important issue, not only for states but for local governments as well.

Billions of dollars are allocated to state and local governments based on the population and its characteristics.

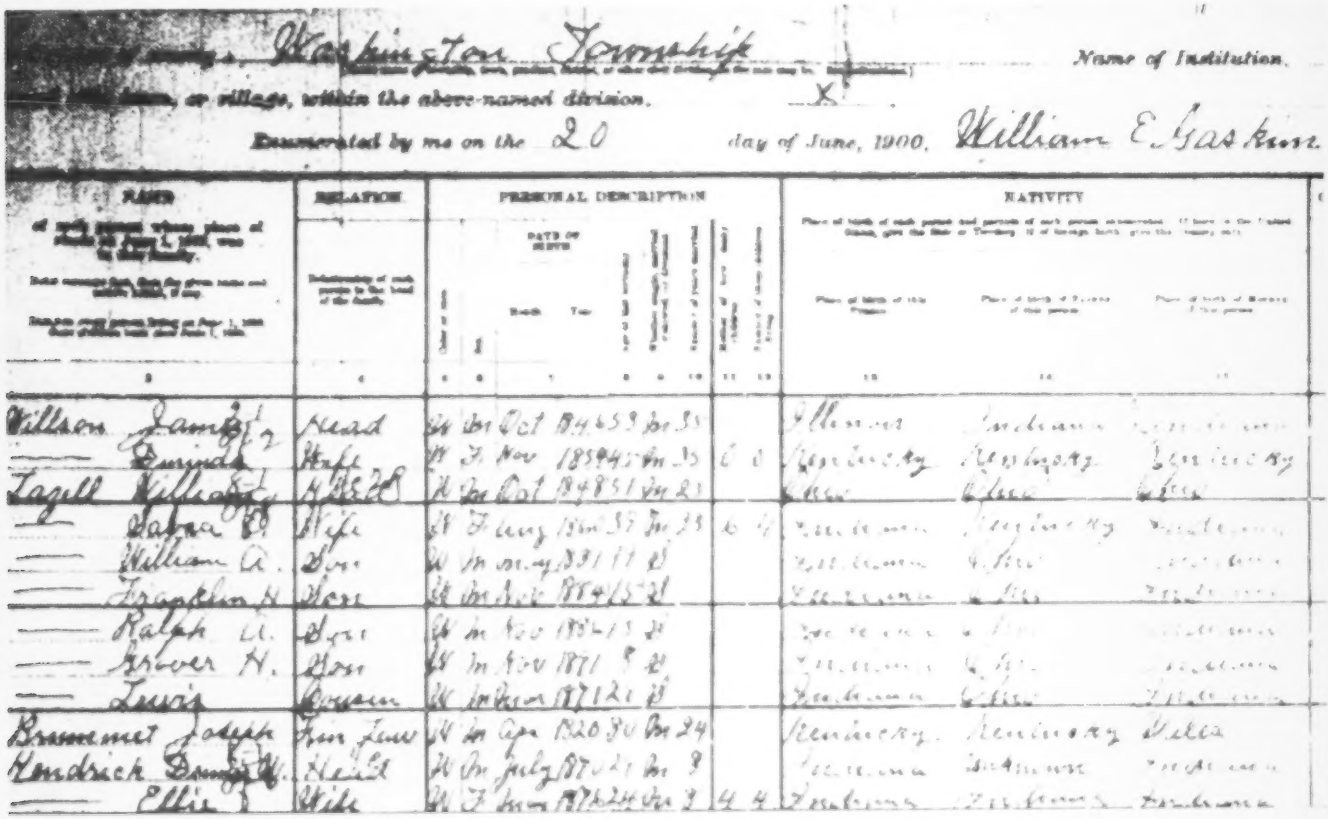
The census results have become invaluable tools for urban, social, and government planners. When planners determine how many schools are needed, the capacity of the water and sewage plants, how much road repair will be necessary, where to locate a new shopping mall or restaurant, and what the demand for care for the elderly or the very young will be, they need accurate information on the current and projected size and composition of their communities. Population

Indiana's Percentage of U.S. Population



1. John R. Weeks, *Population*. Wadsworth Publishing, 1986.

2. *Catalog of Federal Domestic Assistance 1985*. Washington: U.S. Office of Management and Budget, 1986.



Washington Township — Name of Institution.

...town, or village, within the above-named division.

Enumerated by me on the 20 day of June, 1900. William E. Gaskin

NAME	RELATION	PERSONAL DESCRIPTION								NATIVITY		
				DATE OF BIRTH								
				Month	Year							
1	2	3	4	5	6	7	8	9	10	11	12	13
Wilson James	Head	M	W	Oct	1865	M	35			Illinois	Indiana	[illegible]
— Emma	Wife	F	W	Nov	1859	M	35	6	0	Kentucky	Kentucky	Kentucky
Tagell William	Boarder	M	W	Oct	1851	W	21			Ohio	Ohio	Ohio
— Sarah	Wife	F	W	Aug	1861	M	39	6	4	[illegible]	Kentucky	[illegible]
— William A.	Son	M	W	Mar	1881	S				[illegible]	Ohio	[illegible]
— Franklin H.	Son	M	W	Jan	1884	S				[illegible]	Ohio	[illegible]
— Ralph L.	Son	M	W	Nov	1887	S				[illegible]	Ohio	[illegible]
— Grover H.	Son	M	W	Nov	1891	S				[illegible]	Ohio	[illegible]
— Lewis	Boarder	M	W	[illegible]	1872	S				Indiana	Ohio	Ohio
Brunemer Joseph	Son-Law	M	W	Apr	1820	M	24			Kentucky	Kentucky	Ohio
Hendrick Dan W.	Head	M	W	July	1871	S				[illegible]	Indiana	[illegible]
— Ellis	Wife	F	W	[illegible]	1872	M	2	4	4	Indiana	[illegible]	Indiana

projections and estimates use the decennial census as a base, and supply the most current and accurate picture of the population between censuses.

Probable Results and Consequences of the 1990 Census

On April 1, 1990, the Census Bureau will count the people of Indiana. The growth rate for Indiana population for the decade between 1980 and 1990 will be substantially lower than the national average, approximately 1.1% compared to about 11% for the U.S. Thus, Indiana's proportion of the nation's population is declining. If current trends continue, Indiana's 10th seat in the House of Representatives will be, to use a term familiar to Hoosiers, on the bubble.

An undercount of as little as 10,000 people could cost Indiana a voice in Congress. This situation is very similar to the one after the 1980 census. New York was assigned the 435th representative in that apportionment, and Indiana was next in line. If the census had shown 7,500 more people, Indiana would have retained its 11th seat (7,500 people would have been approximately 1/10 of 1% of Indiana's 1980 population).

The results of current population projections show that the population of Indiana in 1990 will be approximately 5,550,000. If there is a very complete count, then that number could rise to 5,570,000. However, an incomplete count could drop the population to as low as 5,520,000.

If current trends continue, Indiana's 10th seat in the House of Representatives will be, to use a term familiar to Hoosiers, on the bubble.

On this 50,000-person margin rests not only a congressional seat, but also close to $6 million in federal funding every year for 10 years. This amount could be even higher, depending on the count's accuracy in certain segments of the population. For example, many federal programs are aimed at low-income

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eople and the elderly. If the overall In-iana count is fairly accurate, but the ount of the poor or of the elderly is low, hen the proportion of funds allocated to ndiana for those groups is reduced.

Of particular concern for undercounting are minority males 18 to 30 years of age, non-English-speaking people, the homeless, and people living in urban areas.

While there is rarely a problem of *overcounting* people in a given area, *undercounting* is a relatively common problem with the census, especially with certain opulation groups. Of particular concern or undercounting are minority males 18 o 30 years of age, non-English-speaking eople, the homeless, and people living urban areas. Many of these groups, nd people living in densely populated eas, are difficult to find, as the census ount depends on complete knowledge of l living quarters. Also of concern are eople who overstate their income, which sults in lowering the count of people tually living below the poverty line.

ow Indiana Can Work Toward a omplete Count

he Census Bureau has implemented the ocal Review Program (LRP) to provide cal governments the opportunity to re-ew preliminary block-by-block housing-nit totals and point out discrepancies sed on their independent estimates. he program is designed to improve the ounts through the list of housing-unit ldresses. A three-part education pro-am, LRP includes distribution of a 35-ge guidebook (sent to officials in July 987), and two workshops, one, this fall, at will concentrate on pre-census re-ew, and another, in 1989, that will con-ntrate on post-census review.

The 1987 workshop was offered in 19 locations throughout Indiana during September and October of this year. Designed by the Census Bureau, the training sessions were conducted by the Indiana State Library and the Indiana Business Research Center (coordinating agencies in the Indiana State Data Center Program) and the Indiana State Board of Health (a member of the Federal/State Cooperative for Population Estimates Programs). All local governments were invited to the workshops, with average attendance of between 15 and 25 people. Many of those attending indicated interest in pursuing the program.

Since all the census questionnaires going to Indiana residents are mailed, it is essential that all housing units be accounted for before *address labels are printed.*

The Local Review Program has two stages: pre-census review and post-census review. In November 1989, before the census is taken, local governments will receive preliminary estimates of housing units by census block (maps will arrive that summer). Local governments can challenge the census count by reporting the discrepancy between it and their own estimates of housing units and supplying documentation of objective proof, such as estimates based on utility connections, building and demolition permits, or property-tax records, within 45 days. (Indiana will have conducted tax reassessment by this time.) Most communities will focus their efforts on areas where high growth has occurred since 1980, or where they think there may be problems. Since all the census questionnaires going to Indiana residents are mailed, it is essential that all housing units be accounted for *before* address labels are printed.

The post-census stage takes place a few months after census day (April 1, 1990). At that time, local officials will receive another set of maps and a preliminary count of housing units. Governments have 10 working days to review the counts and submit discrepancies.

Success in other states coupled with as complete a count as possible in Indiana puts us at least on the same level.

There is significant work involved for local governments. But John G. Keane, the bureau's director, points out, "It offers local government officials...the opportunity to have a direct say in the operation of one of the federal government's oldest and most important activities...."[3]

Local Review's Importance

No one, even at the Census Bureau, disputes that an undercount is inevitable in some areas. As has been discussed in this article, it is the relative size of that undercount that can be critical in determining governmental representation, funding, and planning. Indiana would benefit from a comparatively small undercount in the state. Other states, such as California, Florida, Texas, Illinois, and Michigan, have implemented local-review programs to ensure as complete a count as possible in their respective states. Success in those states coupled with a not-so-successful count in Indiana would substantially lower Indiana's official share of the U.S. population in 1990. Success in other states coupled with as complete a count as possible in Indiana puts us at least on the same level in the determination of representation and funding allocations. □

3. *Nation's Cities Weekly*, August 3, 1987, p. 1.

Indiana Business Review

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In this issue...

The Northern Indiana Commuter Transportation District: A Tenth Anniversary Report

A decade ago the Chicago South Shore & South Bend Railroad sought to discontinue commuter service between South Bend and Chicago, citing severe passenger operating losses. The state attempted to rescue this vital component of the Northwest Indiana economy—in June 1977 the NICTD was founded.

By 1986, some felt that NICTD had failed in selling the idea of local taxes to the public and elected officials in Northwest Indiana. NICTD may have done too good a job in arranging for special state aid programs.

After two difficult years, NICTD intends to adopt a vigorous, future-oriented posture, and to further animate the regional economy.

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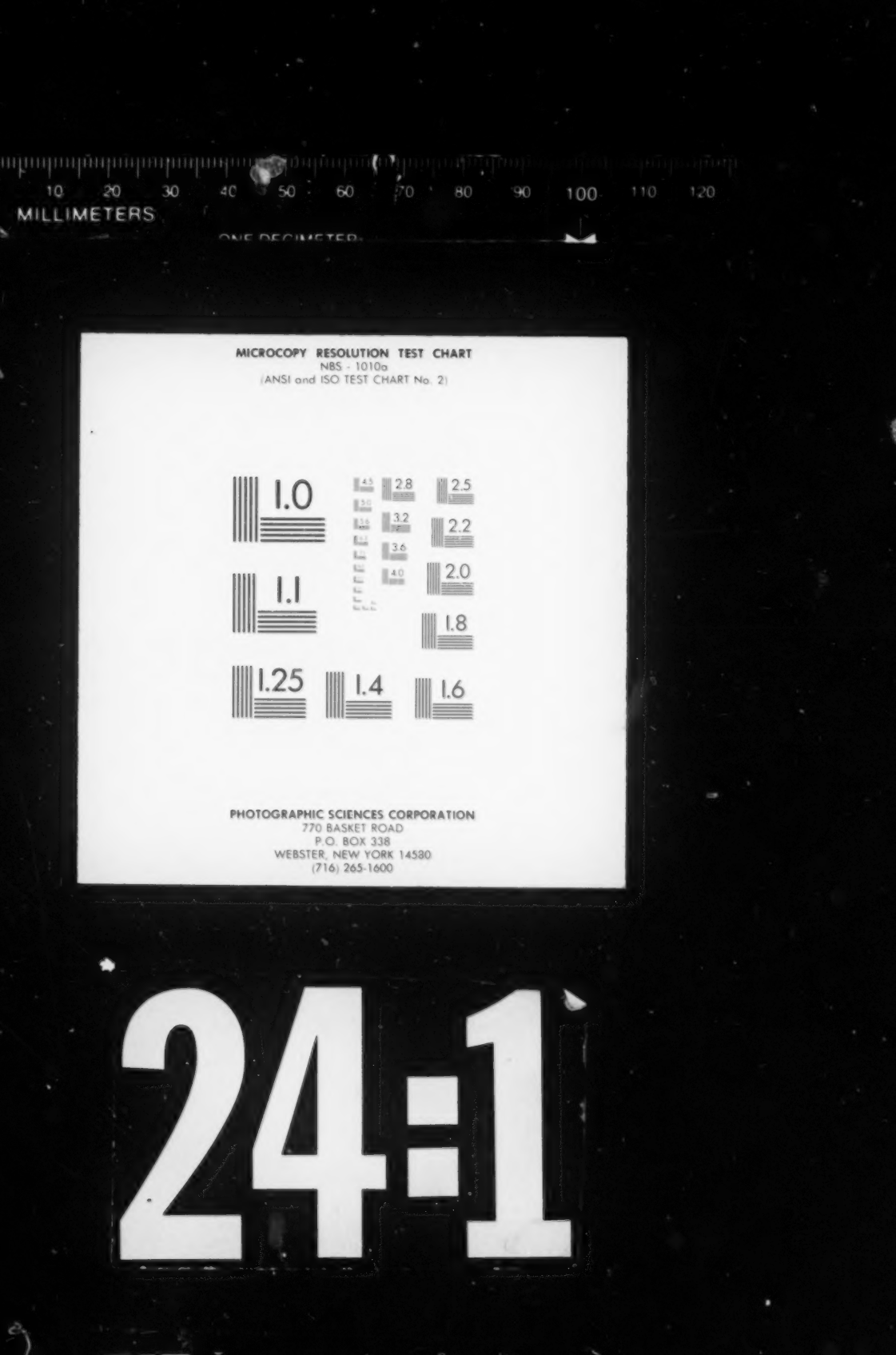
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Indiana Business Review

Volume 62, No. 5

Paul Kochanowski
Wayne Bartholomew
Paul Joray — **Employment Changes in St. Joseph County, 1972-1984**

Carol Rogers — **Information for Economic Development in Indiana**

Morton J. Marcus — **The 1987 Economic Censuses**

Employment Changes in St. Joseph County, 1972-1984

In this issue...

"How are we doing?" is a persistent question asked of economists. Now our valued colleagues at Indiana University-South Bend offer a view of their community that helps place all of Indiana in its national and regional perspective. The processes of industrial change and economic regeneration are as clearly seen in the northern part of our state as in any section of the U.S.

To understand those processes two elements are necessary: good data and good access to those data. The forthcoming 1987 economic censuses are the fundamental sources of such data. Business involvement in the data's development is essential to understanding our economy at the national, state, and local levels. Of equal importance is superior access to information. Carol Rogers details the story of EDIN, Indiana's pace-setting effort to place the best information at the fingertips of public and private decision makers and researchers. EDIN may not be paradise, but it is the closest we have come to it for data-users in the Hoosier state.

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Paul Kochanowski, Wayne Bartholomew, and Paul Joray

Paul Kochanowski *is a professor of business and economics at Indiana University-South Bend.* ***Wayne Bartholomew*** *is an associate professor in the same department, and* ***Paul Joray*** *is chairman of the division of business and economics at IU-SB.*

What happened to employment between 1972-77 and between 1977-84 in St. Joseph County (SJC) when compared to three reference economies: Indiana, the East North Central (ENC) Region (Indiana, Illinois, Ohio, Michigan, Wisconsin), and the United States?

To the extent that the employment experiences of SJC and the three reference economies differed, what factors accounted for those differences?

Has SJC's employment situation, relative to that of the reference economies, improved or deteriorated between the two time periods?

The authors have tried to answer these questions in this study. Data for the study come primarily from *County Business Patterns* for the years 1972, 1977, and 1984. This publication provides data on the number of employees during the mid-March pay period. Data are tabulated on an establishment basis by type of business (based on the 1972 edition of the *Standard Industry Classification Manual*). In the few instances when data were unavailable from this source, we relied upon Indiana Employment Security data.

Our analysis of employment makes use of the **shift-share** technique, which breaks employment down into four sources of change.[1] One is the economic conditions in the larger economies of which SJC is a participant. This is called the *share effect*. The share effect answers the question:

> How much change in employment would an industry have experienced locally if it had grown at the same rate as it did in the reference economy, and if it had represented the same percentage of total employment locally as it did in the reference economy?

For example, if services were just as important to the SJC economy as they were to the Indiana economy, and had services grown at the same rate as they did in the Indiana Economy, then services in SJC would have been expected to grow by 738 jobs per year between 1977 and 1984. (We made similar computations for all industries, using as reference economies not only Indiana but the East North Central Region and the United States as well.)

Actually, however, services in SJC grew by 1,010 jobs per year, not 738. That deviation of 272 jobs can be accounted for by three sources of difference between SJC and the reference economy. The first measures the impact of structural differences and is called the *industry-mix effect*. It answers the question:

> How much of the deviation between a local industry's projected performance (based on the larger reference economy) and its actual performance is due to a difference in the industry's importance in the local economy vis-a-vis its importance in the reference economy (a difference in the two economies' structure)?

Services employ 24.9% of those working in SJC, but only 16.3% in Indiana. Even if services had grown at the same rate in both economies, the employment change in SJC would be proportionately larger because of the greater importance attached locally to services. This structural difference

1. This paper presents the results of our analysis for industries at the one and two-digit SIC levels. Readers interested in the analysis for industries at the three and four digit level should consult the authors for a complete copy of the report.

amounts to 389 jobs per year. If we consider just the share and mix effects, we would expect 1,127 more service jobs per year in SJC (738 based on the growth of services in the reference economy; 389 based on SJC's structural advantage in services).

Even if services had grown at the same rate in both economies, the employment change in SJC would be proportionately larger because of the greater importance attached locally to services.

The actual change of 1,010 service jobs in SJC diverges from the expected change of 1,127 because of the remaining sources of difference between SJC and Indiana. The third captures the local economy's comparative advantage or disadvantage and is called the *competitive effect*. It poses the following query:

> How much of the deviation in the employment change of a local industry from that same industry in the reference economy is due to differences in growth rates?

In SJC, services grew at a 4.75% annual rate during the 1977-84 period. In Indiana the annual rate was 5.30%. Thus, the local economy was at a competitive disadvantage. If services were equally important in both economies, the service sector locally would have generated 76 fewer jobs per year than otherwise because of the local economy's competitive disadvantage.

The fourth and final source of difference recognizes the interaction of structural and competitive differences between the local economy and the reference economy. It is termed the *interaction effect*. Here the question becomes:

> How much of the deviation in the employment change of a local industry from that industry in the reference economy stems from an interaction of the industry mix effect and the competitive effect?

We noted above that SJC's economic structure favors services. We also noted above that the SJC has a competitive disadvantage in services when compared to Indiana. Thus, it proportionately loses service jobs because its structure is more dominated by an industry in which it has a competitive disadvantage. In this case, the loss is about 40 jobs per year. The total actual change for services employment is shown in **Table 1**. The report is divided into sections that represent each of the above categories of employment change.

Table 1
Actual Change and Effects in Service Employment

Actual change in service employment locally 1977-84	1010
Change Due to:	
Share Effect (local service industry performs as a small-scale replica of service industries in reference economy)	738
Industry-Mix Effect (difference in local structure)	389
Competitive Effect (difference in local growth rate)	−76
Interaction Effect (difference in local structure and growth rate)	−40
	1010

Participation in the Larger Economy—The Share Effect

SJC's employment changes come partly through its participation in the state, regional, and national economies. To figure this share effect, we have calculated the change in each local industry's employment if that industry had behaved as a small-scale replica of the same industry in the reference economy.

The differences given in **Table 2** are calculated as the actual employment change in SJC minus the projected employment change in SJC based on its participation in the reference economy. Positive figures indicate a favorable deviation, negative figures an unfavorable one.

As seen in Table 2, all three reference economies outperformed SJC in the 1972-77 period, in total employment and in four sectors:

- Finance, insurance, and real estate;
- Wholesale trade;
- Contract construction; and
- Transportation and other public utilities.

If SJC had had the same structure and growth rate as Indiana, the ENC Region, or the United States, it would have gained 109, 40, or 459 more jobs per year, respectively. Structure, competitiveness, or both thus worked to SJC's disadvantage in the 1972-77 period.

In the 1977-84 period, SJC's employment situation worsened considerably with respect to the United States. Had the SJC economy behaved as a small-scale replica of the United States economy in that period, it would have gained 1,511 more jobs *per year* than it actually did, or 10,577 more jobs over the seven-year period.

This worsening position largely resulted from reversals in three industries—services, retail trade, and manufacturing. SJC had 21 more retail jobs per year in the 1972-77 period than projected based on the United States economy, but 168 fewer jobs per year in the 1977-84 interval—a negative shift of 154. Similarly, SJC had 41 more service jobs in the 1972-77 period than projected, but 169 fewer jobs in the 1977-84 period—a shift of 210 jobs per year. Manufacturing, however, had the largest swing in jobs. It moved from 11 more jobs per year in the 1972-77 period to 581

fewer jobs per year in the 1977-84 period—a reversal of 592 jobs per year. Virtually all of the setback in manufacturing stemmed from the decline in one industry. Machinery except electrical (SIC 35), when compared to the United States, had a shortfall of 559 jobs per year in the 1977-84 period. SJC suffered a somewhat smaller setback in transportation equipment (SIC 37).

The county actually outperformed the United States economy in several manufacturing industries, including:

- Printing and publishing (SIC 27);
- Primary metals (SIC 33);
- Paper and allied products (SIC 26);
- Lumber and wood products (SIC 24);
- Rubber and plastic products (SIC 30);
- Chemical and allied products (SIC 28);
- Stone, clay, and glass products (SIC 32);
- Fabricated metal products (SIC 34); and
- Food and kindred products (SIC 20).

Generally, the advantage in each case was far less than that needed to offset the declines in machinery except electrical and transportation equipment. Nonetheless, these industries' performance in SJC is encouraging. Indeed, in three cases (SICs 20, 24, and 36), the 1977-84 interval's positive performance reversed the 1972-77 period's negative performance.

The picture is much more favorable, however, when SJC's performance is judged against Indiana's performance or the ENC Region's performance. In those comparisons, SJC did better than the reference economies in the 1977-84 period, reversing the pattern set in the earlier period. For example, when contrasted with the Indiana economy, SJC in the 1977-84 period actually had 446 more total jobs per year, 272 more service jobs per year, 147 more retail jobs per year, 11 more manufacturing jobs per year, 133 more contract construction jobs per year, and 56 more transportation and other public utility jobs per year than projected. Finance, insurance, and real estate and wholesale trade were the only significant employment areas in which the state continued to outperform the local economy. The comparisons to the ENC Region are almost the same as those to Indiana. With the exception of the finance and wholesale sectors, SJC outpaced the ENC Region in total employment growth and in each of the employment sectors.

Table 2
Annual Differences Between Actual Employment in SJC and Employment Based on Participation in the Reference Economic—One Digit SICs

SIC	Industry	Indiana		ENC Region		United States	
		1972-77	1977-84	1972-77	1977-84	1972-77	1977-84
1	Total	−108.79	445.74	−39.84	431.41	−459.29	−1511.18
9	Services	201.46	271.97	132.97	258.47	40.67	−168.59
7	Retail Trade	35.32	147.17	124.71	177.96	20.78	−167.75
4	Manufacturing	138.03	11.41	118.91	33.94	11.27	−581.11
8	Finance, Insurance & Real Estate	−94.86	−28.25	−120.08	−56.62	−136.30	−169.29
2	Agricultural Services, Forestry, Fisheries	8.47	−2.26	4.60	−.69	−.84	−7.34
6	Wholesale Trade	−122.86	−119.53	−106.42	−142.13	−144.49	−236.43
3	Contract Construction	−149.49	132.94	−108.62	110.42	−126.82	−49.26
5	Transportation & Other Public Utilities	−144.72	55.57	−104.94	87.68	−125.79	−17.28

The picture is much more favorable, however, when SJC's performance is judged against Indiana's performance or the ENC Region's performance.

The more detailed breakout shows that during the 1977-84 period, SJC's actual employment growth exceeded that based on the share effect for Indiana and the ENC Region in every two-digit SIC manufacturing industry except machinery except electrical (SIC 35), miscellaneous manufacturing industries (SIC 39), and apparel and other textiles (SIC 23). Considering all 43 two-digit SIC industries, SJC outperformed Indiana in 28 of the 43 and the East North Central Region in 27 of the 43. In some cases, the advantage was considerable. For example, SJC gained 133 jobs per year in primary metals (SIC 33), 149 jobs per year in electrical equipment and supplies (SIC 36), 111 jobs per year in trucking and warehousing (SIC 42), and 94 jobs per year in fabricated metal products (SIC 34).

Regardless of the reference economy by which we judge SJC's performance, we find differences, often large, between SJC's actual employment changes and those it would have had if it had performed as a miniature version of the reference economies. What makes SJC different from the reference economies? Three factors are important:

1. Structure;
2. Competitiveness; and
3. The interaction of structure and competitiveness.

Structure—The Industry-Mix Effect

The industry-mix effect measures differences in the structures of the local and reference economies. A favorable mix results when the local economy's percentage of employment in fast-growing industries is greater than that of the reference economy, or when the local

economy's percentage of employment in slow-growing industries is lower than that of the reference economy. An unfavorable mix results from a local economy dominated by relatively slow-growing industries or devoid of relatively fast-growing ones.

SJC's economy has a favorable structure with respect to all the reference economies in the 1972-77 period and Indiana and the ENC Region in the 1977-84 period. From 1972-77, that favorable structure caused SJC's annual employment growth to exceed that of Indiana, the ENC Region, and the United States by 420, 231, and 101 jobs per year, respectively. The comparable 1977-84 figures are 459, 194, and -123, respectively. The structural advantage SJC has compared to Indiana and the ENC Region is concentrated in two sectors: services (SIC 9) and manufacturing (SIC 4). **Table 3** contains the details behind the computations.

At the one-digit level, services (SIC 9) is by far the fastest-growing industry, with a growth rate two to three times that of total employment in the 1972-77 period and eight to ten times that of total Indiana or ENC Region employment in the 1977-84 period. SJC gains structurally from services because in each period it had more of its employment concentrated in this industry than any of the reference economies.

SJC also gained structurally from manufacturing, but for the opposite reason. In the 1972-77 period, the growth rate of manufacturing employment in the reference economies was one-half to one-fifth that for total employment. By the 1977-84 period, the growth rate of manufacturing employment became negative. Manufacturing employment fell by 1.84%, 2.10%, and .23% per year in Indiana, the ENC Region, and the United States, respectively. SJC gained structurally from these manufacturing setbacks because in 1972 and 1977 it was less dominated by manufacturing than was Indiana or the ENC Region. At 1972, SJC had 34.81% of its employment in manufacturing, while Indiana had 44.76% and the ENC Region had 40.28%. At 1977, SJC had 33.48% of total employment in manufacturing, while Indiana had 41.52% and the ENC Region 37.71%. Thus, SJC gained structurally both from having more of its employment in the fast-growing service sector and from having less of its employment in the slow-growing manufaturing sector.

SJC's structural advantage is much larger over Indiana and the ENC Region than over the United States. Virtually all of SJC's dominance in services with respect to Indiana and the ENC Region is offset by a lower percentage of employment in manufacturing. Consequently, SJC traded slow-growing manufacturing jobs for fast-growing service jobs. But SJC's dominance in services with respect to the United States is not offset by lower percentages of manufacturing jobs. Instead it's offset by lower percentages of contract construction, transportation and other public utilities, and finance, insurance, and real estate jobs. In fact, SJC has higher percentages of both service and manufacturing jobs than does the United States. Thus, part of SJC's structural advantage in services with respect to the United States is offset by a structural disadvantage in manufacturing and finance, insurance, and real estate.

SJC'S structural advantage is much larger over Indiana and the ENC Region than over the United States.

Table 3
Growth Rate and Industrial Structure by One-Digit SIC Codes—1972 and 1977

		Annual Growth Rate			*Percentage of Employment*			
SIC	*Industry*	*Indiana*	*ENC*	*U.S.*	*St. Joseph County*	*Indiana*	*ENC*	*U.S.*
1972-77								
1	Total	1.95	1.86	2.40	100.00	100.00	100.00	100.00
2	Agricultural Services/ Forestry/Fisheries	.73	3.28	3.79	.16	.20	.20	.35
3	Contract Construction	1.88	.83	1.02	5.00	4.73	4.39	5.86
4	Manufacturing	.36	.46	1.01	34.81	44.76	40.28	32.23
5	Transportation & Other Public Utilities	1.34	.35	.69	5.42	5.27	5.69	6.71
6	Wholesale Trade	2.43	1.83	2.39	8.19	5.76	6.51	7.02
7	Retail Trade	3.02	2.41	2.98	18.86	19.23	19.29	20.08
8	Finance, Insurance, & Real Estate	3.28	3.58	3.29	5.32	5.16	5.63	6.76
9	Services	5.88	5.34	5.33	21.80	13.83	16.90	19.14
1977-84								
1	Total	.57	.58	2.86	100.00	100.00	100.00	100.00
2	Agricultural Services/ Forestry/Fisheries	10.15	8.30	6.70	.20	.19	.21	.37
3	Contract Construction	-1.74	-1.33	2.40	4.12	4.72	4.19	5.50
4	Manufacturing	-1.84	-2.10	-.23	33.48	41.52	37.71	30.22
5	Transportation & Other Public Utilities	1.10	.35	2.29	4.45	5.13	5.30	6.20
6	Wholesale Trade	.75	1.09	2.59	7.44	5.89	6.50	7.02
7	Retail Trade	1.11	.95	2.88	20.16	20.17	19.77	20.60
8	Finance, Insurance, & Real Estate	1.86	2.22	3.60	5.10	5.47	6.07	7.03
9	Services	5.31	4.50	6.39	24.90	16.31	19.58	21.64

Data at the two-digit SIC level provide a more detailed picture of structural differences. SJC enjoys a structural advantage in four of the fastest-growing industries: eating and drinking places (SIC 58), miscellaneous business services (SIC 73), medical and other health services (SIC 80), and miscellaneous services (SIC 89). Employment in eating and drinking places grew at more than 7% per annum during the 1972-77 period, slowing to between 3% and 5% per annum during the 1977-84 period. Employment in miscellaneous business services and medical and other health services generally grew in excess of 6% per annum. Although miscellaneous services did relatively poorly during the 1972-77 period, its employment growth was also in excess of 5% per annum in the 1977-84 period. These figures were posted while total employment in Indiana and the ENC Region grew at less than 2% per annum (in 1972-77) or at less than 1% per annum (in 1977-84).

Table 4
Changes in SJC's Competitive Effect Between 1972-77 and 1977-84

Industry	*Indiana*	*ENC Region*	*United States*
Total	D to A	D to A	D to GD
Services	D to SD	D to A	D to GD
Retail Trade	A to GA	A to GA	A to D
Manufacturing	A to D	A to D	D to GD
Finance, Insurance, & Real Estate	D to SD	D to SD	D to GD
Agricultural Services, Forestry, Fisheries	A to D	A to D	A to GA
Wholesale	D to SD	D to GD	D to GD
Contract Construction	D to A	D to A	D to GD
Transportation & Other Public Utilities	D to A	D to A	D to A
Other	D to A	D to A	D to A

A = competitive advantage, GA = greater competitive advantage, SA = smaller competitive advantage, D = competitive disadvantage, GD = greater competitive disadvantage, and SD = smaller competitive disadvantage.

Competitive Effects—Differential Industry Growth Rates

Deviations from what would be expected if SJC had behaved as a miniature of the reference economies result not only from differences in structure but also from differences in industry growth rates in the SJC economy compared with those of the reference economies.

SJC's competitive position has improved with respect to Indiana and the ENC Region, but it has deteriorated with respect to the United States. As a way of summarizing the data that document the various competitive effects we list in **Table 4** changes in competitive effects for SJC. Across-the-board improvements in SJC's competitive position vis-à-vis Indiana and the ENC Region are evident. With the exceptions of manufacturing and agricultural services, forestry, and fisheries, SJC improved its competitive position in each broad industry employment group and in total. For total employment, a competitive disadvantage in 1972-77 became a competitive advantage in 1977-84. Earlier competitive disadvantages in contract construction and transportation and other public utilities were erased in the later period. A retail trade competitive advantage in the 1972-77 period grew into an even larger competitive advantage during the 1977-84 period. Three sectors—services, finance, and wholesale trade—reduced the size of their competitive disadvantages. While SJC lost 375 jobs per year in the 1972-77 period because of a competitive disadvantage with respect to Indiana, it gained 167 jobs per year in the 1977-84 period because of a competitive advantage. The comparable figures from the ENC Region are a loss of 227 jobs per year in the 1972-77 period and a gain of 377 jobs per years in the latter period.

The competitive picture with respect to the United States, however, is one of deterioration. In six of the nine sectors, SJC's competitive position worsened. Retail trade went from a competitive advantage in 1972-77 to a competitive disadvantage in 1977-84. Services, manufacturing, finance, wholesale, and contract construction all started with competitive disadvantages in the 1972-77 period that worsened during the 1977-84 period. The employment consequences of these competitive disadvantages are staggering. When compared to the United States, SJC lost 693 jobs per year because of a competitive disadvantage in the 1972-77 period, and 978 jobs per year because that competitive disadvantage worsened during the 1977-84 period.

When compared to the United States, SJC lost 693 jobs per year because of a competitive disadvantage in the 1972-77 period, and 978 jobs per year because that competitive disadvantage worsened during the 1977-84 period.

The overall competitive effect is easily seen from comparisons of SJC's and the reference economies' total employment growth rates after weighting the industry growth rates by the reference economy's structure. In 1972, SJC had 78,154 jobs. Thus, during the 1972-77 period each 1% difference between the weighted growth rates of SJC and the reference economy translates into a 782 job-per-year competitive effect. In 1977, SJC had 85,233 jobs. During the 1977-84 period, then, a 1% difference in growth rates results in about an 852 job-per-year competitive effect. The differentials in total employment growth rates are given in **Table 5**.

The two-digit SIC level results indicate that SJC had a competitive advantage over Indiana and the ENC Region in both the 1972-77 period and the 1977-84 period in eight industries: eating and drinking places (SIC 58), transportation equipment

(SIC 37), miscellaneous retail stores (SIC 59), printing and publishing (SIC 27), primary metals (SIC 33), paper and allied products (SIC 26), motion pictures (SIC 75), and electrical equipment and supplies (SIC 36). In four of these industries—printing and publishing, primary metals, paper and allied products, and motion pictures—SJC had a competitive advantage over the United States, as well.

Table 5
Competitive Effect vs. Reference Economies

	Indiana	*ENC Region*	*United States*
1972-77	−0.48%	−0.48%	−0.89%
1977-84	+0.20%	+0.27%	−1.15%

The frequency of competitive advantages and disadvantages over all two digit SIC industries is given in **Table 6**. These data suggest that while one can speak of a single competitive advantage or disadvantage for total employment, many industries fall into both categories. Even with respect to the United States in the 1977-84 period, where SJC does so poorly, it outperforms the United States in 16 two-digit industries.

The Interaction of Structure and Competitiveness—The Interaction Effect

In the last two sections, we have isolated the effects of structure and competitiveness to explain why employment changes in SJC differed from those that would have occurred had SJC behaved as a small-scale replica of the reference economies. There is yet one more reason for such a deviation: the interaction of structure and competitiveness. The local economy benefits from the interaction of structure and competitiveness if it possesses a structure that emphasizes those industries in which it does relatively well and de-emphasizes those industries in which it does relatively poorly. It loses with respect to the reference economies if it has a structure that emphasizes industries in which it does relatively poorly and de-emphasizes industries in which it does relatively well. SJC's structure tends to favor industries in which it has a competitive disadvantage. This is most obvious when SJC is compared to Indiana in the 1972-77 period. The four sectors in which SJC had a competitive advantage—retail trade, manufacturing, finance, insurance and real estate, and agricultural services—have relatively low employment compared to these industries in Indiana. In contrast, the four sectors in which SJC has a competitive disadvantage—services, wholesale trade, contract construction, and transportation and other public utilities—have a relatively high employment level. A combination of structure and growth rates such as this generates negative interaction effects.

Table 6
Competitive Advantages and Disadvantages

Reference Economy	*Number of two Digit SICs in which SJC Had:* A Competitive Advantage 1972-77	A Competitive Advantage 1977-84	A Competitive Disadvantage 1972-77	A Competitive Disadvantage 1977-84
Indiana	18	22	25	21
ENC Region	22	23	21	20
United States	20	16	23	27

At the two-digit SIC level, two industries—chemical and allied products (SIC 29) and machinery except electrial (SIC 35) show large negative interaction effects in the 1977-84 period. Relevant data on these industries are given in **Table 7**.

In the case of SIC 35, the interaction effect causes SJC to lose 224 jobs per year with respect to Indiana, 118 jobs per year with respect to the ENC Region, and 346 jobs per year with respect to the United States. The reasons for these losses are fairly clear. SJC had a substantial competitive disadvantage in SIC 35 with respect to all three reference economies during the 1977-84 period. While SIC 35 employment fell by 1.48% in Indiana, 2.99% in the ENC Region, and 0.06% in the United States, it fell by 7.75% per year in SJC. Moreover, SJC had a much higher percentage of its employment in SIC 35 than any of the reference 0.59% in the United States. Nonetheless, the interaction effect still penalizes SJC, because SIC 28 is underrepresented in SJC's structure—0.43% of employment in economies—8.49% in contrast to 4.29% in Indiana, 5.57% in the ENC Region, and 3.20% in the United States.

Table 7
Comparative Data for SIC 28 and 35

Characteristic	*Chemical and Allied Products SIC 28*	*Machinery Except Electrical SIC 35*
Annual Growth Rate:		
St. Joseph County	16.69	−7.75
Indiana	0.97	−1.48
ENC Region	−1.30	−2.99
United States	−0.59	−0.06
Percentage of Total Employment:		
St. Joseph County	0.43	8.49
Indiana	1.44	4.29
ENC Region	1.30	5.57
United States	1.37	3.20

The negative interaction effect comes from quite a different scenario for SIC 28, however. For that industry, SJC had a substantial competitive advantage over the reference economies. SIC 28 grew at an annual rate of 16.69% in SJC compared with growth rates of 0.97% in Indiana, -1.30% in the ENC Region, and -0.59% in the United States. Nonetheless, the interaction effect still penalizes SJC, because SIC 28 is underrepresented in SJC's structure—0.43% of employment in SJC, but 1.44% in Indiana, 1.30% in the ENC Region, and 1.37% in the United

States. Even at the more micro level, we find SJC's competitiveness and structure work to its disadvantage. SJC has a structure that de-emphasizes industries in which it does relatively better, and a structure that emphasizes industries in which it does relatively worse—an unfortunate state of affairs.

SJC has a structure that de-emphasizes industries in which it does relatively better, and a structure that emphasizes industries in which it does relatively worse—an unfortunate state of affairs.

Table 8
Summary of Results of Shift-Share Analysis

Reference Economy and Time Period	*Difference**	*Causes of Difference*		
		Industry Mix	*Competitive Effect*	*Interaction Effect*
Indiana				
1972-77	− 109	+ 420	− 375	− 154
1977-84	+ 446	+ 459	+ 167	− 180
Change	+ 555	+ 139	+ 542	− 26
ENC Region				
1972-77	− 39	+ 231	− 227	− 43
1977-84	+ 432	+ 194	+ 377	− 139
Change	+ 471	− 37	+ 604	− 96
United States				
1972-77	− 459	+ 101	− 693	+ 133
1977-84	− 1,513	− 123	− 979	− 411
Change	− 1,054	− 224	− 286	− 544

* *The difference between the annual employment change in SJC and the employment change SJC would have experienced had it possessed the same employment structure and same industry growth rates as the reference economy.*

Good and Bad News

We began this report by asking three questions about the employment change in St. Joseph County. Data to answer these questions are found in **Table 8**. The good news is that with respect to Indiana and the ENC Region, SJC reversed the competitive disadvantage it had in the 1972-77 period. With respect to Indiana, SJC also improved its employment structure. The result was a shift in SJC's relative position. In the 1972-77 period, SJC's employment growth lagged behind that of Indiana and the ENC Region. In the 1977-84 period, SJC's employment growth outpaced that of two reference economies.

The bad news is that with respect to the United States, SJC's competitive disadvantage in the 1972-77 period worsened in the 1977-84 period, as did its employment structure. As a consequence, SJC lost respectively 459 and 1,513 jobs per year that it would have added if it had behaved as a small-scale replica of the United States economy during the 1972-77 and 1977-84 periods.

The successes with respect to Indiana and the ENC Region at least in part reflect the efforts of many people in both the private and public sectors, and they rightfully should feel proud of their achievements. Nonetheless, the failures with respect to the United States have to be addressed, and a response must be fashioned. SJC competes with Indiana and the ENC Region primarily in the market for new investments, and it appears to be winning that competition. In the market for population, SJC competes with the United States. It is in this market that the game is being lost. □

Information for Economic Development in Indiana

Carol O. Rogers

Carol O. Rogers *is external programs user services coordinator for the Indiana Business Research Center.*

How large is the labor pool? What are the educational and skill levels of the labor force? Where are the major transportation routes? What training programs are available? What is the generation capacity of the electric utilities? How large is the water supply? Will there be a constant labor supply over the next 20 years? Are there programs available to help finance a new business?

All of these questions are asked every day in Indiana by economic-development workers. Finding the *answers* to these questions and others is often difficult and time-consuming. Local officials, state agencies, libraries, utility companies, and other agencies might have the necessary information. But where, oh where, is the one source that has all the information?

One of the plan's strategies was to "improve the information base and establish a communication system for economic development in Indiana."

In Step With the Future: Indiana's Strategic Plan for Economic Development brought critical statewide issues and needs to the attention of leaders in business and government. It helped legislative and administration efforts to modernize government regulation and to develop competitive programs for technological advances. It created an instrument for monitoring economic-development efforts, implementing new programs for old problems and exploring new initiatives to meet new problems (the Indiana Economic Development Council). One of the plan's strategies was to "improve the information base and establish a communication system for economic development in Indiana."

This strategy was to be implemented through EDIN—the Economic Development Information Network. Responsibility for EDIN's development was lodged with the Indiana Business Research Center at the Indiana University School of Business, which has long experience with the development of on-line data bases and systems. The first phase of EDIN development was the redesign of what had been INDIRS, the Indiana Information Retrieval System, a project initiated in 1969 by the Indiana Department of Commerce and the Bureau of Business Research (predecessor of the Indiana Business Research Center). INDIRS was one of the first interactive, on-line sources for economic and demographic information about counties and cities. It received funding support from the Indiana State Library and the U.S. Department of Education. But INDIRS was not suited for the modern world in many ways. It relied on equipment from the pre-microcomputer age; it was easily accessible, but only through public libraries (and the general public does not use data with the same urgency as professional economic-development practitioners); and it was a numeric system in a world more conscious of the growing body of computerized non-numeric information. Economic-development professionals rely on a network of people and organizations; an information system for this group would have to be more than just numbers.

The INDIRS data base was retained and expanded, but a new communications network was needed to satisfy the Indiana strategic plan's demands and objectives. In July 1985, EDIN development began. At a major public meeting of persons concerned with economic development, the concept was introduced and refined. Partial funding was provided from the state legislature through the Indiana Economic Development Council.

Four major, closely interrelated areas form the network's operational divisions: systems development; data development; outreach services and training; and administration and coordination. The various cooperating agencies develop data bases, both numeric and descriptive, by a common means of access. Four components are in various phases of development, with names to add to the ever-growing lexicon of acronyms: STATIS, BASIS, SAGIS, and INSITE.

STATIS

STATIS is the Statistical Information System, the most direct successor to INDIRS. It contains a broad variety of data for Indiana's 92 counties; Indiana's 230 largest cities and towns; Indiana's 11 metropolitan statistical areas; and the 50 states. Users can view subject tables that include several data items from the files. They can also choose single data items in formats suitable for either printing or transferring to popular spreadsheet, analytic, word processing, graphics, or mapping software. The STATIS system was designed by the center's staff to be used easily by economic-development and other agencies that have microcomputers and modems. As of November 1987, there were nearly 50 organizations throughout the state using the more than 2.5 million numbers in STATIS.

State-level analysts want data that compare Indiana to other states so they can demonstrate how the Hoosier state is superior, average, or inferior—depending on the issue—with respect to its sisters. Data for all 50 states are part of STATIS. But users in communities on Indiana's border want county-level data for Illinois, Ohio, Michigan, and Kentucky. Users in metropolitan areas want data on other, comparable areas in the Midwest or the nation. These needs await resolution of long-term questions about EDIN's technical direction.

BASIS

BASIS is intended to accommodate those users who need descriptive, non-numeric information. The Business Activities and

Services Information System is being designed as a collection of mailing lists, legislative and administrative programs, funding sources, meeting calendars, deadlines, and events, all accessible in a single reference source either for direct inquiry or for further user-defined purposes with the use of a microcomputer. BASIS will include electronic mail and a bulletin-board feature, both of which will facilitate communication among economic-development agencies and personnel. The information sources will be diverse, with maintenance responsibility resting with the originating source.

SAGIS

SAGIS, the Small Area Geographic Information System, will be developed over the next three years to prepare for the wealth of data the 1990 census will bring. The system will rely on software now in development by commercial vendors. As envisioned, it will help local agencies merge census data with local files for facilities and program planning.

INSITE

INSITE is under development by Ball State University's Indiana Economic Development Academy. The Indiana Site Information System, guided by experienced economic-development professionals, will provide detailed information on industrial and commercial buildings and sites. Jurisdictional questions, proprietary information, and logistical considerations make progress slow, but completion is anticipated within the next year.

The Experience[1]

Seven truths have emerged in the first two years of developing and operating EDIN:

1. This section was adapted from a recent speech by Morton J. Marcus at a meeting of the American Statistical Association.

1. There is never enough money. Information is too frequently perceived as a free good—if it isn't free, it ought to be! That the collection, organization, and dissemination of information involves the use of ordinary scarce resources defies popular mythology. Business leaders, who resent "intrusive government," believe that all their data wants are buried in some file of some agency. When data do exist, they often remain inaccessible because the collecting agency does not have the resources to organize and disseminate it.

2. Compatibility is as rare in the computer world as in marriage. Full compatibility among hardware and software systems will be available on the day preceding the last trumpet. Rapid change in the computer industry is likely to be sustained for the remainder of the working lives of all now working. Differences in functional needs and in the generations of computer facilities are likely to lead to even greater problems as the diversity of equipment and software advances.

Full compatibility among hardware and software systems will be available on the day preceding the last trumpet.

3. Users are more or less sophisticated than helpful. The principle that users should direct the development of an information system is a noble one, but producers have responsibilities and perceptions that often transcend users' knowledge and interests. An information system with a diversity of users will consistently disappoint the more sophisticated and frustrate the less sophisticated. This truth applies to both the system's technical characteristics and content. Those in the middle ground, and the most satisfied, may be a minority of users. Hence, EDIN is slowly evolving into a two-level system, with flexibility for the more sophisticated user who knows how to use computer and information resources, and a simple, not too limited capability for on-line utilization by the less sophisticated. Yet another level of information access will be the development of paper and diskette products for users with interests that can be best satisfied by information in those formats.

4. Information wants are insatiable. There are no known limits to the amount of information desired by even the most casual decision maker. Given two pieces of data, the inquisitive mind immediately can think of having those two items for all known geographic areas in both Christian and Islamic lands. Each item is also part of a time stream stretching back to the Crimean War. Subsets of the first two are demanded to test for compositional variations over time, space, or both. Without constraints (prices), users will request data up to and including the point of their own boredom.

5. A data series, once initiated, is a cost in perpetuity. The joy of locating and installing a set of data is often akin to the joy of seeing one's firstborn. As with children, the maintenance of that data series involves annual expense and effort often exceeding the initial cost, without the concomitant pleasures. In the rush to be comprehensive (and to justify the initial expense against both doubters and competitors), an information service tends to install data elements that will be expected to be permanent parts of the annual process of the system. Hence, each data element added must be seen as the acceptance of a cost or liability as long as the system is expected to continue.

6. Questions change faster than data can be developed. The quest for data originates in the desire to answer specific questions. Our ability as a society to answer new questions depends on two factors:

1. How rapidly new information can be developed; or
2. How easily existing data can be used as a proxy for the necessary information.

In the area of economic development, the questions do not remain the same for any sustained period of time. Therefore the questions go without definite resolution. For example, how many firms in a given state make product X? A Japanese manufacturer is about to visit and might want to know. There is no time for a survey of all manufacturers. Thus proxy data, from which one could infer an answer (County Business Patterns or the quinquennial Census of Manufactures), will be used.

7. An available bad number is preferred to a good number. The lack of resources, the heavy demand for non-existent data, and the heavy cost of maintaining data bases lead to a Gresham's law situation: bad numbers tend to drive out good numbers. Good numbers take too long to develop and cost too much for most questioners to support. Hence a bad number, a proxy or approximation, will suffice so that some number can be had. Once the decision maker is satisfied with a series of bad numbers, good numbers are no longer seen as desirable. "Just give us that same number you gave us before," is the certain reply should the same question ever be asked again.

Once the decision maker is satisfied with a series of bad numbers, good numbers are no longer seen as desirable.

Information systems are complex. Earlier, four distinct functions were identified. Systems need to be built; data need to be assembled; users need to be courted and educated; and the entire project needs to be managed. Within that framework, EDIN is being developed to be adaptable and will evolve to meet changing information needs and new technology. □

The 1987 Economic Censuses

Morton J. Marcus

Director, Indiana Business Research Center, Indiana University. The author is indebted to Jake Silver, the U.S. Bureau of the Census's special assistant for development of outreach and related programs in the Industry Division, for background material used in this article.

Here they come again, the 1987 Economic Censuses. This is the chance for every business to contribute to the growth of our nation. That chance is going to appear in the mail, not as a premium offer, a special introductory sale, or a tip on the stock market. It will be an ordinary, but extraordinary, questionnaire from the government. It will be an investment by business in business, and it will be welcomed by all informed and progressive business leaders.

The most important source of information on business in the U.S. is the U.S. businessman. Every five years (in years ending in 2 and 7), the Bureau of the Census asks for the cooperation of firms of all types to help all of us understand the structure and performance of our national economy. From the data collected in these censuses, the Bureau compiles reports that are the foundations of our national economic statistics and virtually all market research. Few actions by the business community can match the significance of full participation in this vital national effort.

Since 1810, we have been collecting information on ourselves as business entities. Just 20 years after the start of the national population census, it was recognized that a full understanding of America requires good data on how we organize ourselves to conduct our economic activities. This year, more than 3.5 million business establishments will be asked to participate. There are seven distinct areas covered by this quinquennial[1] program:

- Retail trade;
- Wholesale trade;
- Service industries;
- Transportation;
- Manufactures;
- Mineral industries; and
- Construction industries.

In addition to these, and at the same time, the Bureau conducts similar efforts in agriculture and government. Not covered by this process are firms engaged in finance, insurance, and real estate. There are plans for an expansion of coverage into these sectors for the 1992 censuses.

What is to be learned?

The data from the censuses will answer such questions as:

- How many businesses, in total and of different types, exist in each county, city, town, and township?
- What are their employment levels?
- How much business do they do?
- What are their costs of doing business, including payroll, materials, fuels, rent, advertising, and communications services?
- How much value is added by each?
- What is the level of capital expenditures?

Where considerations of confidentiality permit, the data generated by these questions can be tabulated for states, counties, or zip-code areas. Those tabulations will give us the most complete picture of how we have progressed since the last census (in 1982). Because business is so complex, the Bureau uses more than 500 variations of its basic questionnaire. This means that the questions asked each firm are specific to its type of activity, which reduces the reporting burden on that firm. About six million very small firms will not be asked for data. Instead, administrative records of the federal government, based on other data provided by those firms in compliance with federal law, will be used to give a comprehensive view of each industry.

Data on individual firms are never available under the confidentiality

1. What other activity gives us a chance to use the word "quinquennial"? All of us who took Latin in high school are rewarded every five years by the opportunity to refresh our vocabularies.

provision of federal law, so firms will not be able to compare themselves with specific competitors. But they can compute market share as well as growth trends in geographic areas and product lines. In addition, they can compare their performance to industry-wide statistics. Sales territories for manufacturers' representatives can be developed from these data. Feasibility studies and business plans for financing new enterprises are dependent on the economic censuses.

The very data by which we measure economic performance are guided by the information we obtain in these reports. Gross national product, price indices, and measures of industrial production and productivity are all derived from the information we gather every five years and update with additional statistics on a quarterly basis.

Of particular importance now will be the studies of structural change that will be conducted using these data by researchers in universities, government, and private firms. When the world is changing rapidly, fresh, comprehensive data are the lifeblood of analysis. From these studies, states, localities, and businesses can monitor change and identify opportunities for growth.

Additional special reports will be forthcoming from this activity. There will be special studies for minority-owned and women-owned businesses to answer specific social questions.

When?

All these wonders depend on businesses returning their census forms, with careful attention to the questions, by the February 15, 1988 deadline. Then the Bureau will process, tabulate, and release the information to the public. This time, that release will go far beyond publishing documents. Computer tapes, floppy disks, and compact disks will be used to provide the most flexible access every to census data.

The data will start flowing in late 1988, reach its peak in 1989, and continue into 1990. They will be available through the usual outlets (public libraries and the Superintendent of Documents), as well as through the extensive national network of State Data Centers and the Bureau's data users services division and regional offices. In addition, the Bureau hopes to initiate an innovative program that would reach local firms and trade associations by means of business-industry data centers. If the program is approved, it may be up and running by the time the economic-census materials are available. The Bureau will meet the challenge of assembling these valuable data; businesses, by participating, will enhance a great resource. •

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In this issue...

The year 1987 will be remembered for many different reasons. Some, as partisan Hoosiers, will recall the NCAA basketball tournament. Others, with equal basketball fanaticism but of a different religious persuasion, will recall the Great Walk-Off. In business circles, 1987 will be the year of the Crash.

The stock market decline began in August, reaching only its paroxysm of press attention in mid-October. Every radio station, TV station, newspaper, and magazine that pays any attention to business news has been out in the shopping malls interviewing shopkeepers and customers to determine the psychological impact of the Crash on buying patterns for this holiday season. Economists are to be found staring at their computer screens awaiting on-line retrieval of consumer-spending data and corporate investment plans.

At the same time, consumer, corporate managers, and government policy makers are awaiting the definitive Word from the economists. Will there be a recession, or will the economic expansion that began in 1982 continue? We have asked our astute colleagues from throughout the state to assess the year just concluded and give us the Word. May their record remain unblemished.

Now, with our best wishes for a prosperous, productive, and personally pleasing New Year to all who read these pages, let the Word go forth! □

MJM

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The Outlook for 1988: Modest

Bruce L. Jaffee

Professor of Business Economics and Public Policy, Indiana University School of Business

As we forecast last year, real GNP in 1987 grew relatively slowly, at a sluggish 2.5%-3.0% rate. We expect an even worse economic performance, in real GNP terms, in 1988. However, we expect the economy's worst performance to be in the first half of the year, with a modest recovery occurring in the second half. Real growth will be in the 0%-2% range during the first six months and will rise to the 2%-4% range in the second six months. The average growth rate should be approximately 2% (see the **Table**). Probably the weakest individual sector of the economy will be investment, although even in this area the performance is likely to be mixed: investment in business structures will be very weak, but equipment investment, especially for computers, automation, export-related activities, and general modernization, will be a bright spot.

Inflation is likely to remain under control in 1988. We expect prices as measured by the GNP deflator to rise approximately 3.2% in 1987, as opposed to the 3.5%-4% range for 1988. Consumer prices should be approximately 1% higher than the broader GNP deflator measure of price changes—due, in part, to higher prices for imports. We predict that the unemployment rate, which declined through most of 1987, will gradually increase during 1988. But the average rate for 1988 is unlikely to be significantly different from that of 1987: about 6%.

A serious recession is unlikely in 1988 unless international financial flows to the United States dry up or consumer and business confidence deteriorate. Unfortunately, both scenarios have become more likely in recent weeks. The sharp decline in interest rates in the fourth quarter is likely to induce foreign investors to keep their funds at home, leading to further declines in the value of the dollar. The unprecedented stock-market crash and the increase in stock and bond price volatility will likely have significant negative effects on the economy in 1988. A significant amount of wealth has been destroyed, with important implications for consumer spending. Business and consumer confidence have been eroded; consequently, we have lowered expected growth rates for business investment and consumer spending on durable goods.

Table
GNP and its Components

	1986 *(Billions $ 1982)*	*1987 (est.)* *(% change from previous year)*	*1988 (predicted)*
GNP	3713	2.8%	1.9%
Personal Consumption Expenditures	2431	2.5%	2.0%
Gross Private Domestic Investment	655		
Non-residential fixed	444	−1.5%	3.0%
Residential fixed	197	−0.7%	−1.8%
Change in business inventories	14	35.0	10.0
Net Exports	−146	−130.0	−91.0
Exports	377	10.5%	8.0%
Imports	523	4.7%	3.9%
Federal Government Spending	333	−0.2%	−1.0%
State & Local spending	422	3.3%	2.3%

Except change in business inventories and net exports, both in $ Billion 1982.

Personal consumption expenditures comprise about 65% of total GNP. Although that sector is typically less volatile than the investment, government spending, and foreign sectors of the economy, its large size makes it critical in any forecast for GNP. We expect consumption expenditures to grow at approximately a 2% real rate in 1988. The durable goods sector is likely to be the weakest area, reflecting higher interest rates, higher prices for foreign products, and a decline of consumer confidence. A 2% growth rate is likely for this sector, down substantially from the average in 1984-87 of 8.7% growth. Nondurable goods spending is expected to grow at a 2.5%-3% rate, while spending for services will grow at a slightly higher rate, reflecting the continuing long-term change in personal consumption expenditures away from goods toward services.

One factor that will stimulate consumption spending, at least modestly, will be lower tax withholdings in 1988. This reflects the full impact of lower personal income tax rates in the Tax Reform Act of 1986. There also could be an unusually high amount of taxes refunded in the first and second quarter of 1988 because of overwithholding in 1987.

Overall, we expect 1988 to be a year of transition, one of very modest growth. The uncertainty at this point is whether 1988 will be moving us toward solid growth or into a modest recession in 1989.

One area of some strength in the economy is likely to be the net export side. Recent trade statistics tend to mask the fact that our trade balance, while still substantially in the red, has improved. Declines in the value of the dollar tend to aggravate the magnitude of the trade loss. In constant dollar terms major progress has been made, and we expect it to continue in 1988.

Government spending, especially at the federal level, is likely to be modest. This comes from both the great concern both Congress and the executive branch have about the federal deficit and the mild restrictions imposed by Gramm-Rudman-Hollings II.

Overall, we expect 1988 to be a year of transition, one of very modest growth. The uncertainty at this point is whether 1988 will be moving us toward solid growth or into a modest recession in 1989. □

Consumption Spending

Fred Bateman

Chairperson and Professor of Business Economics and Public Policy, Indiana University School of Business

Consumption expenditures are particularly important in the forecast for 1988. First, consumption represents almost two-thirds of the gross national product, so any change, up or down, in this component will exert a major influence on total output. Second, during the current expansion, consumption consistently has been a fast-growing sector. Some argue, indeed, that the American people have been on a spending binge, both in the private and public sectors. Whatever one's judgment on this, consumer spending on a wide range of goods and services undeniably has powered what is now the longest continuous peacetime expansion in the twentieth century. If consumer spending declines, the expansion will slow—unless some other component, such as investment, government, or exports, assumes a greater role.

We expect consumer expenditures to increase at a real rate of 2% during 1988, down substantially from the average of the current expansionary period. While achieving only 2% growth would remove consumption from its leading role, it would remain a positive contributor to next year's economy. We foresee, therefore, no absolute decline in consumer expenditures at this time, only a slowing of the growth rate.

Within the consumption category, individual components will perform differently. Durable goods, those items whose purchase is relatively easily postponed, will be the weakest area. Even if there are no negative effects from the stock market's behavior, consumers are expected to reduce purchases of durables as their stocks of such goods reach desired levels. We project durable-goods expenditures to grow at a rate below 2%. Our forecast for automobiles, a major durable, is for a decline from 1987's level (about 10 million units) to 9-9.5 million next year.

Even if there are no negative effects from the stock market's behavior, consumers are expected to reduce purchases of durables as their stocks of such goods reach desired levels.

Nondurables and services will fare better. We expect spending on nondurables to increase by about 2.5%, offsetting somewhat the weakly-performing durables component. Services, which have been receiving a growing share of the American buyer's dollar, are expected to be the strongest consumption sector next year, increasing at a real rate of 2.5% to 3%. As incomes rise and more women enter the labor force, the demand for services grows apace. We anticipate its continuing to do so next year, albeit at a lower rate than in the immediate past.

There are several imponderables in the year's outlook for consumer spending. The lowering of personal income tax rates could provide some added stimulus to spending,

as could the unusually large tax refunds expected next year (reflecting excessive withholding during 1987). Offsetting these income tax effects, however, will be higher payroll taxes, and (in some localities) higher state and local levies. In the view of some, the biggest uncertainty surrounding consumption is the effect of the stock market's gyrations on consumer psychology. Although initial sentiment seemed to turn negative, no actual shift in buying patterns is apparent as this is written. To a large extent, the way the American consumer reacts to this event will be a function of how public policy evolves over the early months of 1988. That we cannot forecast. Our projection thus remains neutral on this issue by assuming no measurable effects on consumer psychology from the market drop. Even in that scenario, however, consumption's role in propelling national growth will be diminished substantially during the coming year. □

Consumption's role in propelling national growth will be diminished substantially during the coming year.

Investment

R. Jeffery Green

Professor of Economics, Indiana University

The current recovery already is the longest ever recorded in peacetime, and early on, constant dollar spending on plant and equipment (fixed nonresidential investment) followed the typical cyclical pattern. Plant and equipment spending usually lags behind the beginning of the recovery and then grows strongly late in the recovery. Real GNP began to grow in the fourth quarter of 1982, and real plant and equipment spending began to increase two quarters later. Initially, growth was very strong. Constant dollar plant and equipment spending rose at an annual rate of over 12% from 1983-85.

However, even though the recovery continued for another two years and may go on longer, real plant and equipment spending began to decline. By the third quarter of 1987, the level of real plant and equipment spending was still 6% below that reached at the end of 1985. It is remarkable that the recovery could continue despite this poor performance.

What was behind the decline in fixed investment spending? The decline in plant and equipment spending was concentrated in spending for structures, which, in the third quarter of 1987, was 15% below its level at the end of 1985. The decline was concentrated in two areas. The first, and largest, was the petroleum industry, in which wells are counted as structures. As world oil prices declined in 1985, oil drilling plummeted and investment in this sector fell by one-third. The other area was commercial building, where the effects of tax reform in 1986 and earlier overbuilding ended a period of rapid growth.

Firms will find it harder to finance investment spending through issuing equity, but the expected decline in interest rates will make it cheaper to finance plant and equipment spending through borrowing.

While these problems are diminishing, others have appeared. It is too early to judge how the recent stock-market troubles will affect business confidence. Firms will find it harder to finance investment spending through issuing equity, but the expected decline in interest rates will make it cheaper to finance plant and equipment spending through borrowing. Overall, we believe real plant and equipment spending will rise by less than 4% in 1988. Most of the increase will be in those areas that have been strong, such as computers and telecommunications equipment, but even investment in structures should end its decline and remain steady in 1988.

While nonresidential investment averaged a little over 60% of total investment spending in 1987, residential investment spending accounted for just under 30%. Residential investment peaked at the end of 1986 and declined gradually through 1987 in response to rising interest rates. Lower interest rates in 1988 will eventually bring a rise in residential investment, but we expect housing starts to be below their 1987 level through much of 1988 and average about 1.5 million for the year.

Inventory investment comprises the remainder of total gross private domestic investment. While the smallest of the three main components of investment spending, it is the most volatile. Inventory investment averaged over $30 billion in real terms at an annual rate for the first three quarters of 1987. This is far above the $14 billion registered for all of 1986. Consequently, inventory change is expected to be quite small in coming quarters and could even be negative. Inventories appear to be particularly high in the automobile industry despite generous sales incentives.

In total, real investment will contribute only moderately to economic growth in 1988, with nonresidential investment up less than 4% and residential investment and inventory investment down from 1987 levels. □

Interest Rates and Financial Markets

Donald L. Tuttle

Professor of Finance, Indiana University School of Business

The recent unprecedented volatility and volume experienced in the U.S. and foreign bond and stock markets in recent months is expected to have a

significant effect on the forecast for future debt and equity prices, yields, and returns. Moreover, the wealth loss and extreme uncertainty in common stocks will likely have a substantial effect on domestic consumption and business investment (either directly or indirectly). These effects could be exacerbated by federal government efforts to reduce the budget deficit through tax increases or spending reductions. However, such efforts should have favorable longer-term effects, either as a display of fiscal self control, or in more specific terms, such as reduction of the growth of our foreign debt.

Prior to the stock market sell-off, the most likely scenario included little prospect of a recession, little change in the government deficit, a less volatile dollar trending lower, and moderately higher inflation in the 6% range. Monetary policy was expected to be moderately constraining, as reflected in long-term government bond yields of 10%-plus.

Now, however, the most likely scenario includes either a short-duration mild recession or a low-growth economy starting at some point in early 1988. Consumption and business investment spending will be reduced or postponed, and there will not be large growth in government deficit spending. Inflation should be in the 4%-5% range. Monetary policy, which has been accommodative in the wake of the market decline, cannot stay that way for too long because of the potential outflow of funds from domestic instruments with low interest rates and, ultimately, potential inflation effects.

In late 1987, the yield curve for U.S. government securities ranged from about 6% (for short-term) to 8% (for intermediate-term) to about 9% (for long-term bonds). It is anticipated that rates, especially short-term rates, will continue to ease in the very near term, but they should increase to about 6.5%-8% for short-term, 8.5%-9% for intermediate-term, and 9.5%-10% for long-term U.S. Treasuries later in 1988. Because of their quick response, mortgage rates will drop temporarily, but they should move higher as 1988 wears on. The forces that moved rates upward in the third quarter of 1987 had not disappeared by late 1987. How high rates rebound becomes a function of how strong or weak the economy becomes.

The forecast for common stocks is much less clear. If the individual U.S. investors who were burned by the sell-off are joined by foreign investors in not returning to the U.S. equities markets, stock prices will not rebound and returns will largely consist of dividend yields. Is there a chance the market could fall further? Of course, and if it does, it will likely be associated with a fall in foreign stock markets, especially that of Japan.

If the individual U.S. investors who were burned by the sell-off are joined by foreign investors in not returning to the U.S. equities markets, stock prices will not rebound and returns will largely consist of dividend yields.

As a result, the forecast for U.S. money market instruments in 1988 is relatively favorable *in return/risk terms*. The market for longer-term bonds is neutral to favorable, because coupon income should exceed capital losses generated by interest rate increases. However, the temporary further decline in rates in early 1988 could produce subsequent capital losses that exceed coupon income as rates rebound. The return/risk tradeoff for stocks is unfavorable, especially in view of the extreme uncertainty that has been injected into the marketplace (price volatility is twice what has been experienced historically). As a result, the asset allocation that is recommended for the typical balanced account is: 30% money market instruments, 30% bonds, and 40% equities. The allocation to common stocks is the smallest recommended in several years. ☐

Mortgage Interest Rates and Housing

Jeffrey Fisher

Associate Professor of Finance and Real Estate, Indiana University School of Business

The outlook for mortgage rates is as uncertain as the outlook for interest rates in general. Because of the high volume of mortgages that are now sold on the secondary market after they are originated, mortgage rates respond very quickly to changes in the overall interest-rate level.

In the short-term, mortgage rates may fall slightly. The demand for mortgages will drop, as many consumers postpone moving or purchasing a new home because of the uncertainty created by the stock-market crash. On balance for 1988, however, mortgage rates will most likely begin to rise, as they were before the crash, and we will see rates about 50 basis points above those of late 1987.

The gap between fixed-rate and adjustable-rate loans will probably remain wide (about 2%), because of the rising yield curve and relatively high uncertainty as to the direction interest rates will go.

Housing

Assuming mortgage rates do not rise significantly more than 50 basis points next year, the seasonally adjusted annual rate of housing starts will probably be about 1.5 million, down slightly from 1987. New home prices will probably increase at a rate similar to the overall inflation rate, about 5%. Existing home prices will rise at a slightly lower rate, about 4%. This will continue to widen the existing gap between new and existing home prices, which is already the widest it has been since 1982.

Housing affordability will decrease slightly during 1988 as a result of rising mortgage interest rates and higher home prices. Despite this decrease, housing

affordability in Indiana will remain high relative to the national average. The homeownership rate (the percentage of people who choose to own rather than rent) should remain at its current level of about 63%.

Housing affordability will decrease slightly during 1988 as a result of rising mortgage interest rates and higher home prices.

The recent volatility in the stock and bond markets will cause many investors to find real estate relatively more attractive, in risk/return terms, and reconsider the diversification benefits of holding more real estate in their investment portfolios. □

Government Fiscal and Monetary Policy and Inflation

George W. Wilson

Distinguished Professor of Business Economics and Public Policy, Indiana University School of Business

It is difficult to talk about changes in federal government revenues and expenditures as "policy" any more. What has happened over the last decade bears no relationship to a stabilization policy designed to offset undesirable inflationary or recessionary tendencies. The huge deficits beginning in the mid-1970s and their incredible growth since 1980 were neither anticipated nor welcomed by the current administration and the general populace. A handful of observers, however, thought that they served a useful purpose in propelling the economy out of the recessions of the early 1980s. Indeed, without them, recovery would have been neither so rapid nor so lengthy. However, the persistence of the larger-than-ever deficits has become a source of accelerating anxiety as the economic expansion rolled, or stumbled, on into its fifth year.

The view that deficits are immoral and inflationary is hard to dispel. That deficits represent dissavings, cause high interest rates, crowd out private investment, and pass untoward burdens onto future generations are notions that still persist. Never mind that much U.S. public expenditure is really investment, that there is no direct link to interest rates or crowding out, that empirically growing deficits are associated with *decreasing* interest rates (this is not causal—both are associated with recessions), or that it is scientifically unclear that a deficit composed largely of, say, new highway, airway, R&D or even educational expenditures, *even if* it crowded out some private investment in, say, hula-hoop factories, wineries, or high-fashion emporia, would be undesirable or immoral on social or even strictly economic grounds.

But we must ignore these points at the moment, even as we seek to improve public understanding of the nature and consequences of federal government deficits.[1] The fact is that large—nay, huge—federal deficits *are* scary to most people and *can* have undesirable economic and political consequences under certain conditions. That most of these conditions do not now exist, and have not existed since the early 1980s, is irrelevant, as is the proposition that most of the alleged consequences of deficits are myths. If most people—and especially those decision makers in and out of government, including the big players in the financial markets—believe in them, the myths become reality. Every person analyzing the Wall Street fiasco of the week of October 19 has cited the fears and anxieties caused by the deficits. The myth is real, alright.

Because of this, a frantic though fumbling attempt has just been made[2] for the administration and the Congress to get together and do something about it. For seven years, the administration has adopted a posture of "don't do something, just stand there." Fears mounted. Gramm-Rudman-Hollings I accomplished nothing, and G-R-H II didn't seem to have a much better chance until the most recent Great Crash occurred. So now government is supposed to, expected to, begged to do something even by the most ardent advocates of government passivity, those neo-Benthamites who proclaim the only role of government is to BE QUIET. But the month-long meetings produced a mere $30.2 billion deficit reduction, *not* below *this* year's deficit but below the *forecast* of $179.9 billion for next year. This would simply hold the deficit to what it was in fiscal 1987, namely, $148 billion. No wonder the deal, agreement, or compromise was viewed as half-baked and shaky. The world exchange markets gave a large yawn. Indeed, the responsible U.S. officials truly fiddled while the world burned, losing a golden opportunity to respond decisively and promptly. As one commentator put it, "the window of opportunity closed" at the month-long spectacle.

The responsible U.S. officials truly fiddled while the world burned, losing a golden opportunity to respond decisively and promptly.

What is needed is a politically acceptable compromise consisting of a small revenue-enhancement factor (no *tax* increase!) and an agreement to hold federal outlays to a growth rate of between 3%-5% per year in *nominal* terms. If the economy grows at around 7% in nominal terms (2%-3% real with 3%-5% inflation, as is widely predicted for the next five years or so), federal revenues should rise by an average of 7% per year or slightly more if there is some revenue enhancement accompanying the nominal GNP growth. As indicated here in the most recent mid-year review,[3] these

1. See also Robert Eisner, *How Real Is the Federal Deficit?* (New York: Free Press, 1986).

2. Written in late November.

3. *Indiana Business Review*, July 1987, p. 4.

assumptions would indeed eliminate the deficit by the early 1990s. Furthermore, they are well within the range of recent experience. Outlays rose by less than 2% last year and revenues by more than 11%. Were a slump to occur between now and then, which now appears more likely, the deficit would, of course, increase. But since this would be expected, no further panic would occur, just as the current sharp drop in the deficit by about $73 billion in fiscal 1987 is too often discounted as being entirely due to temporary one-shot revenue increases associated with the Tax Reform Act of 1986.

I believe that revenues and expenditures can indeed be held to the rates of increase noted above. If so, the deficit for fiscal 1988 can be reduced absolutely below the level of 1987 by almost the G-R-H goal (see the **Table**). To get a zero deficit by 1993, simply invoke the same conservative growth rates of revenues and outlays as above. There should be no big trick to that.

Table
Federal Government Revenues and Outlays (in $ Billion)

Fiscal Year	*Revenues*	*Outlays*	*Deficit*
1986 (actual)	769	990	221
1987 (actual)	854	1002	148
1988 (estimated)[1]	916	1042	126

[1]Based on revenue growth of 7.2% and outlay growth of 4%

Monetary Policy. Sensible fiscal policy is cribbed and constrained by the above considerations. Monetary policy is increasingly constrained, as well. In its case, the persistent and historically high foreign-trade deficit forces the Federal Reserve Board to consider the exchange value of the dollar as well as prospective inflationary forces. So long as inflation threatened, putting upward pressure on domestic interest rates served both purposes. Now, with an increasing threat of recession triggered by the incredible instability in financial markets, the happy coincidence of preserving the value of the dollar and continuing to fight against inflation is no longer present. In fact, one would expect the Fed to carry out its promise to provide plenty of liquidity for the next several months. The earlier fears of inflation have not materialized. Even Alan Greenspan conceded that the recent, pre-crash tightening of credit was meant to convince those with premature or unfounded inflation expectations that the Fed would promptly respond to inflation, even when it neither existed nor was an immediate prospect. For the foreseeable future, the Fed posture should be one of easier accommodation or even more "immoderate ease" than reported here last December.

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Inflation. Serious inflationary pressures do not appear immiment. *Au contraire*, as noted above, fears of an earlier *recession* are preeminent. This makes it even more illogical to curtail the budget deficit sharply and put into force some $50 billion of contractionary forces in addition to those engendered by the wipe-out of some $1 trillion of asset values in the stock market last month. But logic is not one of our more compelling needs at the moment. One could, of course, argue that reducing the budget deficit would help reduce the foreign-trade deficit, since the two are linked (*ceteris paribus*) by the well-known national income and accounts (NIPA) identity:

$$\text{Government Deficit} = (I - S) + (X - M).$$

This, however, does not include all or the same items in the federal deficit that are included in total receipts and outlays, the basis of the Gramm-Rudman-Hollings budget concern. Nor are the deficits the same.[4] The NIPA identity also includes state and local revenues and expenditures and, being an identity, does not imply causation. However, to the extent that the two deficits are linked, a reduction in the federal deficit will be less contractionary if it induces or permits more reduction in the foreign-trade deficit or net exports.

The problem for next year is not one of inflation, but of preventing a recession. A turnaround in the trade deficit, as we predict, will be the best assurance that 1988 will show positive, albeit meager, real growth. □

4. Deficits for fiscal 1984, 1985, and 1986 on an NIPA basis were (in $ billions) 161.0, 184.5, and 213.6, respectively. On the receipts-and-outlays basis, the deficits were 185.3, 212.3, and 220.7.

The International Economy

Michele Fratianni

Professor of Business Economics and Public Policy, Indiana University School of Business

The United States is in its fifth year of economic expansion following the 1980-82 recession. Although the recovery started somewhat later in the other six Summit countries (Canada, Japan, West Germany, France, the United Kingdom, and Italy), the present worldwide business-cycle expansion has exceeded by far the average length of recoveries in the postwar period (about two-and-a-half years).

Output growth in the G7 countries was 3.2% in 1985, 2.8% in 1986, and is expected to slow further in 1987. Price inflation, on the other hand, is expected to rise from the 2.0% value achieved in 1986. The Paris-based OECD (Organization for Economic Cooperation and Development) forecasts 2.4% real growth and approximately 4% price inflation—when measured by the GNP price deflator—for 1988. External trade

imbalances in the G7 countries remain very pronounced and represent the main obstacle to sustained non-inflationary economic growth.

The U.S. current-account deficit—the difference between exports and imports of goods and services plus net transfer payments plus net interest payments on net external debt—is running at an annual rate of $140 billion, virtually unchanged from a year ago. According to the U.S. Department of Commerce, U.S. net foreign indebtedness at the end of 1986 was $264 billion, more than double its level at the end of 1985. When that figure is added to the current-account deficit, we come up with a net United States debt to the rest of the world of approximately $400 billion by the end of 1987. Assuming an average interest rate of 8%, the external-debt burden would translate into a net outflow of interest payments of approximately $32 billion. These net interest payments would occur every year net debt remains at the existing level. Should the U.S. current-account deficit in 1988 be in the neighborhood of $120 billion, a most likely outcome with unchanged policies here and abroad, net foreign debt would rise to $520 billion, forcing the United States to make much higher interest payments to non-residents. At this higher level of debt, foreign buyers of our securities would be increasingly skeptical of the America's ability to correct its external imbalance; the U.S. Treasury would have to pay a risk premium because of such skepticism.

Assuming an average interest rate of 8%, the external-debt burden would translate into a net outflow of interest payments of approximately $32 billion.

A substantially different picture emerges when we consider income-account data instead of balance-sheet data. According to income-account data, the United States in 1986 had a net interest *inflow* of $20.8 billion, a figure that is hardly consistent with a net debtor position. Furthermore, a recent study of the International Monetary Fund reveals that the U.S. trade deficit was overstated by approximately 16% in 1985 and 1986. In essence, the U.S. external deficit is less dramatic than is suggested by press accounts. Nonetheless, it remains a serious constraint to sustained growth and needs to be corrected.

The United States in 1986 had a net interest inflow *of $20.8 billion, a figure that is hardly consistent with a net debtor position.*

There are three basic ways out of the existing impasse. One is the coordinated strategy pursued by Secretary of the Treasury James Baker. According to this strategy, countries with a current-account surplus, such as Japan and Gemany, ought to expand aggregate spending—absorbing a much larger amount of American exports—and keep exchange rates stable. The obvious difficulty with this approach is that neither Japan nor Germany is eager to increase domestic inflation. The central banks of both countries have bought large quantities of dollar-denominated assets to prevent the dollar from depreciating further. These interventions in the exchange markets are bound, sooner or later, to show up in additional money creation in the two countries.

Net exports of goods and services in current dollars have increased by merely $2 billion from the third quarter of 1986 to the second quarter of 1987 (the last quarter for which data are available). In contrast, net exports in *constant* dollars have risen by a sizable $33 billion. The bulk of this improvement results from the depreciation of the dollar, and the question is whether the exchange rate by itself can turn around the U.S. current account. There are many economists who argue that, given the slow progress of international cooperation (the first strategy), the dollar ought to be allowed to seek its natural value—the value that would restore equilibrium in the current account. The difficulty with this, the second strategy, is that expected depreciations of the dollar would trigger sales of foreign-owned U.S. government securities, an action that would force interest rates to rise in the United States. Another difficulty with additional dollar devaluations is that the inflation rate would be adversely affected. The Federal Reserve Board would have to tighten monetary policy to offset the price-level consequences of the depreciation.

Stock markets both in the United States and in foreign countries appear to have realized the seriousness of the large external imbalances in the world. The first strategy seems to be working too slowly to prevent a self-defeating protectionist bill in the Congress. The second strategy would scare away the foreign buyer from the U.S. financial markets and could risk a recession. The final strategy is for the United States to reduce its federal budget deficit, the main engine of the current-account deficit. A lower budget deficit would give the Fed more freedom to maneuver. The politics of the budget process are such that the most likely outcome of this strategy is the application of the Gramm-Rudman-Hollings provisions.

There are many economists who argue that, given the slow progress of international cooperation, the dollar ought to be allowed to seek its natural value—the value that would restore equilibrium in the current account.

On these premises, our forecast for 1988 is that real exports of goods and services will grow at least twice as fast as real imports, placing net real exports at -$100 billion. As to the exchange rate, the Louvre Accord of February, 1987—which *de facto* established target values of DM 1.80=$1 and Yen 140=$1—has collapsed. Market forces are pushing for a 10%-15% depreciation of the U.S. dollar relative to the Louvre target values, putting the Deutsche mark at 1.60 and the Yen at 130. □

The Indiana Forecast

Morton J. Marcus

Director, Indiana Business Research Center, Indiana University School of Business. This article is based on the Indiana Econometric Model forecast of November 9, 1987 prepared by Richard L. Pfister and Catherine E. Balliet, neither of whom would wish to accept responsibility for the descriptive representations of the author. The model is a component of the Indiana Econometric Model Project, R. Jeffery Green, Director.

After strong growth in real personal income in 1986 of 3.4%, Indiana's economy slowed to half that pace in 1987, falling to a 1.6% increase. In 1988, the sluggish pace of growth for the national economy will again bring about a reduction in growth for real Indiana personal income. The rate of growth should decline from 1.6% to 0.9%. This would be the slowest rate of growth the state has seen since 1983, when we struggled out of the 1979-82 recession with a 0.2% increase in real personal income.

This year, however, will be the sixth consecutive year of growth for the state's economy. Real personal income, after a 1987 advance estimated to be $1 billion (in 1982 constant dollars), is expected to rise by $570 million in 1988. Nominal, or current, dollar advances for the two years would be $4.1 billion and $3.6 billion, respectively. The anticipation of a higher national inflation rate accounts for the greater difference between the real income figures of the two years than that between the nominal income figures.

Conflicting Forces

Two major forces are expected to provide direction to Indiana's economy in 1988. First, consumer spending on durable goods is likely to be less vigorous than in 1987. This will be felt in Indiana's manufacturing and transportation sectors, as fewer automobile and appliance parts are produced or shipped to domestic factories. A national decline in housing starts, reducing the demand for appliances and fixtures, also will have an adverse impact on our state. The classic Hoosier downturn would seem to be in the making, as consumers across the nation continue to buy at less exuberant levels than in 1984-86.

Here, the second major force will come into play to offset these negative factors. Exports are an important part of the state's economic picture. Often we imagine that corn and soybeans are the dominant products leaving the state for foreign destinations. These images notwithstanding, the value of manufactured exports from Indiana is four or five times as great as the value of agricultural exports. Earlier in the decade (as current numbers are not available), 12% of the goods manufactured in Indiana were bound for other nations.

The decline in the dollar's value has already boosted the state's steel industry, as price-sensitive standardized products are the first to be positively affected by exchange-rate movements.

The decline in the dollar's value has already boosted the state's steel industry, as price-sensitive standardized products are the first to be positively affected by exchange-rate movements. Additional downward movement in the dollar against the other major exporting nations' currencies should have a positive influence on Indiana's economy. The manner in which that positive force is felt remains to be determined.

Opportunities in '88

There are four potential ways Indiana firms can gain from the dollar's decline:

Companies exporting directly to foreign nations clearly benefit. Indiana firms may have to develop or redevelop the necessary foreign marketing expertise, but federal and state agencies stand ready to assist Hoosier businesses with foreign transactions. In addition, the private market has many specialized firms that can facilitate exports. Agricultural exports should benefit, but gains in this sector may be difficult to realize. The United States faces significant competition in grains from other nations worldwide. Price improvements, given massive international surplus positions, are not anticipated. Farm income gains in Indiana in 1987 may not be equaled in the year ahead.

Suppliers as well as exporters can gain from the decline in the dollar. Hoosier businesses can sell inputs (both goods and important services) to manufacturers across America whose exports will increase in 1988. The key element is that Indiana firms must target those firms in their normal marketing domains that might raise their output levels because of increased export opportunities.

With the dollar down, import prices will tend to rise relative to those of domestically produced goods. Domestic firms, including many in Indiana, can regain domestic market share lost to foreign companies in recent years. This may happen if U.S. businesses seek larger market share and forego short-term temptations to raise prices and profit margins. The automobile industry is perhaps the best example of an exceptional opportunity for market-share recovery.

Suppliers to national industries with the chance to recover market share can themselves see higher volumes in 1988. Aggressive marketing and pricing programs could pay off for firms that are sensitive to these openings in otherwise grey clouds.

Employment Gains

Total employment for Indiana in 1987 should average 2,538,000. This is a historical high, about 67,000 (2.7%) above the previous peak reached in 1979. The gain made in 1987 was more than 79,000 jobs, which, coupled with a 63,000-person expansion in the labor force, resulted in a declining unemployment rate.

For 1988, we anticipate employment growth to be just shy of the growth in the state's labor force (33,000 vs. 34,000). This will cause a very slight upturn in the unemployment rate. The improved prospects associated with the decline in the value of the dollar may not have

employment consequences where excess capacity exists. We can instead anticipate continued employment growth in wholesale and retail trade, business services, finance, insurance, and real estate—areas that have recorded good employment gains in the recent economic expansion. Manufacturing employment will probably continue to follow its long-term downward trend, with that decline slowing from the strong retrenchment of the early years in this decade.

Summary

Indiana should avoid a recession in 1988 if the positive influences associated with a declining dollar overcome the negative forces of decreased demand for consumer durables. □

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Indianapolis

Robert Kirk

Professor of Economics, Indiana University-Purdue University at Indianapolis. *Data assistance provided by Ron Martin, Indiana Department of Employment and Training Services.*

The Indianapolis economy has been expanding at a strong 4% annual employment growth rate. During 1988, however, the growth rate is expected to be around 2%. The dollar's 1987 depreciation will increase the demand for exports produced by Indianapolis firms. A top executive in one Indianapolis firm said that when the dollar appreciated during the early 1980s, his firm's goods could not compete in price with foreign-produced goods. Some suggested at the same time that his firm's goods, and those of other U.S. firms, were inferior in quality. Now his firm's goods are relatively low in price, and quality is not an issue—raising the question of whether the quality was inferior in the first place.

Consumer Durables

The forecast reduction in employment growth in 1988 is based on uncertainty in consumer durables. In 1986-87, consumer spending growth was greater than income growth, so the rate of personal saving fell. Since the consumer is not expected to be able to reduce savings further, consumption is expected to weaken, especially in consumer durables. Typically, a downturn in consumer-durables expenditures has hit Indiana harder than other states. However, Indianapolis has a more diverse economy than the rest of the state, and it therefore is in a better position to sustain economic activity.

Since 1972, the average price of an automobile has approximately tripled, and the average amount financed by debt has increased to almost four times what it was 15 years ago. At the same time, the average maturity on new automobile contracts has increased from 35 months to over 49 months, keeping the average monthly payment at about the same ratio to income in 1986 as in 1972. Therefore, the debt-burden income-flow ratio has not changed. However, we have had five years of strong vehicle sales. The shift in consumer tastes from passenger cars to pick-up trucks has benefitted GM's Indianapolis truck and bus plant, which supplies the Fort Wayne truck assembly plant. Indianapolis will be hurt in 1988 by the closing of the Chrysler electrical plant.

Indianapolis Performance

The forecast for 1988 must be considered in the context of a five-year expansion. During this period, the dollar initially appreciated. Deregulation occurred in some industries, forcing firms to change their mode of production.

How has the Indianapolis economy performed relative to other metropolitan areas in the region? The **Table** shows the competitive position of Indianapolis and other metropolitan areas in selected industries. Competition is measured by measuring a metropolitan area's share of employment change, relative to that industry nationally, after adjusting for national growth across all industries and the difference between the industry's rate of change and the all-industry rate. The period covered was an expansionary phase of the business cycle, June 1983-June 1987.

In the Table, a negative sign for an industry means a loss of share for the metropolitan area relative to the industry nationally; a positive sign means a gain. Columbus has the greatest overall increase in share, followed by Cincinnati, Indianapolis, and St. Louis. For Indianapolis, wide variation occurred across industries. Plant closings (Western Electric and RCA) hurt the electrical machinery industry. The strength in construction for both Indianapolis and Columbus is shown.

Industries that were high-growth industries nationally but in which Indianapolis lost share were grocery stores and furniture retailing. These industries are closely tied to population growth, and Indianapolis' population growth was less than the national rate.

If we break the industries down a little further, those increasing their share of employment relative to that industry nationally were trucking and air transportation (reflecting Indianapolis' strategic location) and business services. Industries that were high-growth industries nationally but in which Indianapolis lost share were grocery stores and furniture retailing. These industries are closely tied to population growth, and Indianapolis' population growth was less than the national rate (although strong compared to

Table
Competitive Effect for Selected Metropolitan Areas in Selected Industries, 1983-87
(percent of June 1983 employment)

Industry	*Cincinnati*	*Columbus*	*Indianapolis*	*St. Louis*
Fabricated metal	−5.4	−11.9	6.2	−9.5
Nonelectrical machinery	6.2	4.2	7.8	1.4
Electrical machinery	−11.0	−2.3	−43.7	0.5
Transportation equipment	5.3	19.4	−5.7	3.6
Food	−5.1	−0.7	−14.6	3.9
Printing and Publishing	−2.4	−4.4	−3.0	−10.6
Chemicals	9.2	5.5	4.9	−4.3
Construction	18.2	36.2	32.3	−2.6
Transportation, Communication, and Public Utilities	2.0	8.5	14.3	−1.8
Wholesale trade	−13.0	2.8	3.1	−13.0
Retail trade	3.5	5.7	1.4	−3.0
Finance, Insurance and Real Estate	1.7	3.7	−5.0	0.1
Services	10.8	14.6	19.2	3.0
Government	2.1	2.5	1.0	−9.8
Total	5.7	7.0	5.5	−2.6

Source: States' Departments of Employment and Training Services, and author's calculations.

other metropolitan areas in Indiana). With all the new restaurants in Indianapolis, one might think that Indianapolis increased its share of employment in the national restaurant industry. Other parts of the country experienced similar expansion in restaurants, however, leaving Indianapolis' share unchanged.

Two industries that could be vulnerable to an economic slowdown are trucking and air transportation. An analysis of inter-industry linkages shows that trucking services are used by many industries in Indianapolis. Airline deregulation has resulted in several new carriers serving Indianapolis. The USAir-Piedmont merger could result in consolidation of operations and loss of employment.

Business services represented the largest competitive shift (in absolute numbers). Business services consists of a wide range of activities—from management consulting to temporary-help agencies. If temporary help is considered a variable cost, temporary-help employment would be the first to be affected by a slowdown. On the other hand, during the 1983-87 expansionary period, many new firms were established. These firms have not experienced a slower-growth environment, and might seek out the assistance of management-consulting firms if slower economic growth occurs.

Conventions, Office Buildings, and Housing

Based on booked hotel room nights and the growth in hotel rooms, the projected occupancy rate is 62%—which is not much above the 60% break-even point. The macroeconomic market conditions for office buildings indicate:

1. A vacancy rate for downtown office space that is approaching the national average and expected to increase (with substantial additional office space being placed on the local market in 1988); and
2. A suburban rate that is about the same as the national rate (23%).

At the microeconomic level, however, these rates do not indicate that there will not be new office buildings or apartments under construction. Each developer feels that its project is sufficiently differentiated, by location or market niche, so that it will be well received. Office buildings not so differentiated will have to upgrade and creatively promote themselves. Preleasing of new office buildings has reduced the developer's risk. A new corporate headquarters in Indianapolis would help absorb some of the available office space.

Demand for single-family housing is characterized by trading up—a reflection of baby-boom demographics and relative income gain. Nationally, the rate of household formation has declined about 25% from 1980-87 compared to 1970-80. Since 1980 the percent change in the number of households in the 15-19 age group has fallen by 40% and in the 20-24 age group by 19%. These trends would suggest a slower-growth apartment market. Permits issued locally for multi-family housing have adjusted downward in 1987 following a 1980-86 period of rapid expansion. A factor that could sustain demand for apartments would be the decline in income of young persons relative to households with heads 45-54. Some young persons who might wish to shift from apartment living to home ownership may not be able to afford home ownership.

In 1988, Indianapolis' skyline will continue to change as major construction projects continue or are completed. These structures reflect the functions of an evolving major urban area.

In 1988, Indianapolis' skyline will continue to change as major construction projects continue or are completed (Bank One Center, the Indianapolis Zoo, the Eiteljorg Museum of American Indian and Western Art, the Westin Convention Center Hotel, and the I.U. Clinical Research Center). These structures reflect the functions of an evolving major urban area.

The legacy of Fordism (large manufacturing plants based on scale economies) and Taylorism (production processes based on many specialized functions) will gradually be replaced by plants with more flexible production processes that can adapt to a rapidly changing environment. Entrepreneurs, technology-transfer agents, and venture capital will play an important role in facilitating this transition. □

Terre Haute

Marvin Fischbaum

Professor of Economics, Indiana State University

In 1987, a continuing slide in manufacturing activity hurt what otherwise might have been a good year for Terre Haute. The 1988 outlook does not look to be much better, and the year could wind up worse than 1987.

The Terre Haute corollary to Murphy's Law may well be, "If a factory can shut down, it will." The year began with an ongoing phaseout of operations at J. I. Case. Indiana Gas and Chemical reduced employment levels sharply. Then came the announced closing of CF Industries (and the termination of the last of 115 positions); and Doxsee Foods closed, with a loss of 87 jobs. All this was capped by the news that Alcan Aluminum will end most areas of production at its Terre Haute plant—a move that will cost the area an additional 460 high-wage positions. Metropolitan area establishment manufacturing employment declined by 600 jobs over the past year, and it is likely to fall further in the coming year, to an average of less than 10,000.

The year saw many positive developments, although none could offset the impact of plant closings. The city landed Evergreen Express, and so became the U.S. Postal Service's express-mail hub for the central part of the country. Competitive air carriers have challenged the contract, and some property owners are unhappy with the noise and the prospect of airport expansion, but the community at large hopes that the enterprise will prosper and remain in Terre Haute.

Construction

Continued strength in nonresidential construction also bodes well for the future. The first half of the year saw restaurants pop up all over, and in recent months discount gas outlets have transmuted themselves into convenience stores *en masse*. Of greater significance, Hercules and Ampacet are increasing production capacity, while IMC and Pfizer are building new plants to utilize recombinant DNA technology. These projects eventually should lead to 100 or more additional manufacturing jobs.

Vigo County is building or adding to four elementary schools. Indiana State University will soon start work on two $11 million buildings. Other construction includes a downtown parking garage, a parking apron for Evergreen Express, a Magnetic Resonance Imaging facility, a new Knights Inn, and a Charter Medical psychiatric hospital. The Terre Haute House and the downtown building that housed the Meis Department Store have changed ownership. Developers hope to convert the former into a Raddison Suites Hotel and the latter into shops, offices, and apartments.

F. W. Dodge Reports show new nonresidential construction contracts down this year from a year ago. The value of nonresidential building permits is also down, but many construction projects appear not to have been registered. Construction employment is up, and the outlook clearly is for a further increase in construction activity.

Residential construction activity did decline somewhat, as apartment building slowed and fewer houses were built on speculation. The inventory of existing homes for sale declined modestly, and prices firmed somewhat, but it remained very much a buyer's market.

Agriculture

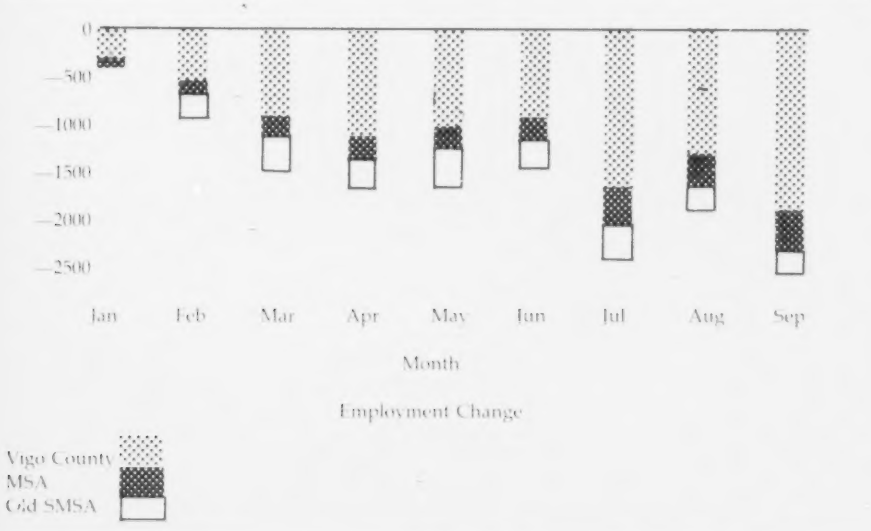
With a good corn crop, a decent soybean crop, and higher prices, farmers enjoyed a better year than expected. With agricultural income still very dependent on government subsidies, however, and with future government policy up in the air, the outlook for agriculture remains guarded.

Employment

Through September, unemployment estimates for the Terre Haute MSA (Vigo and Clay Counties) ran at levels close to the state and national averages. Unemployment in Vermillion County was somewhat higher, and Sullivan County experienced the state's highest level of unemployment. Year-to-year comparisons of establishment employment (measuring employment by place of work) show the MSA slightly ahead of 1986 during the first quarter and slightly behind the previous year during the second and third quarters. In contrast, year-to-year comparisons using the labor force estimate of employment (based on place of residence) show dramatic deterioration. In a shameless attempt to grab attention, it is the latter data that are illustrated in the **Figure.**

October and November brought a series of events that may affect Terre Haute in the coming year. One was Sony's purchase of CBS Records. Considering what happened after Anchor Glass bought out Midland Glass, after Tenneco merged J. I. Case with the agricultural-implement business of International Harvester, after Borden acquired Doxsee, and after Alcan took over the aluminum operations of Atlantic Richfield, workers at Sony DADC and the Columbia House Division of CBS Records might be a little anxious. But this situation is different. Columbia House dominates the record club business, DADC can only benefit from having Columbia Records as a captive customer, and the Japanese try to work with employees rather than terminate operations abruptly.

Figure
Area Employment
Year-to-Year Change



A second concern relates to increased expenses. A shrinking tax base will lead to rising property taxes. As businesses close, personal property disappears. Sooner or later, the real property base will also contract, either by abandonment or from abatements granted to entice new industry. Utility rates will rise. Terre Haute Water has requested a 16.5% increase, and GTE wants one of 27%. Quick calculations indicate that, if fully granted, the telephone-rate increase would siphon between $4 million and $6 million from the community. By comparison, a similar rough estimate puts the Evergreen Express payroll in the $1 million to $2 million range.

The fall in the dollar, and the consequent rise in price of imports and goods that compete with imports, will hurt consumers more than it will benefit local businesses.

Finally, the financial markets' erratic behavior should have some local impact. The fall in the dollar, and the consequent rise in price of imports and goods that compete with imports, will hurt consumers more than it will benefit local businesses. Most firms that had been hurt by imports closed shop. Sales of our major exports—agricultural commodities and services to international students—are not very responsive to the value of the yen or the mark. The dramatic easing of monetary policy (in response to the excitement on Wall Street) should, through lower interest rates in the short run and the potential for higher prices in long run, help borrowers and hurt lenders. A slow-growing region with a demographic profile weighted toward the elderly will be a net lender. ❑

South Bend/ Mishawaka— Elkhart/ Goshen

John E. Peck

Professor of Economics and Director of the Bureau of Business and Economic Research, Indiana University at South Bend

One cannot help being impressed with the advances the South Bend/Mishawaka and Elkhart/Goshen communities have made over the past 12 months. While some economic sectors are not as robust as others, and activity in Elkhart County continues to outpace that in St. Joseph County, the region's overall performance has certainly reflected the continuing expansion that was expected when the midyear outlook (*IBR*, July 1987) was prepared.

The **Table** summarizes various indicators of local economic activity for the South Bend/Mishawaka and Elkhart/Goshen communities as tracked by Indiana University at South Bend's Bureau of Business and Economic Research. The figures are seasonally adjusted and, with the exception of the unemployment rates and real estate data, are index numbers expressed as a percentage of base-year values. It is noted that comparative index numbers are given for August and September, and index numbers are also given for a September 1987 to September 1986 comparison to highlight trends.

South Bend/Mishawaka

Overall employment in the South Bend/Mishawaka area was at a historical high as of September 1987, and the measure of overall employment tracked, St. Joseph County nonagricultural employment, rose 3.7% in the last 12 months. This gain, however, was made exclusively in the

Table
Economic Indicators (Index Numbers Seasonally Adjusted)

	South Bend/Mishawaka			*% Change From*		*Elkhart/Goshen*			*% Change From*	
	Septbr 1987	*August 1987*	*Septbr 1986*	*August 1987*	*Septbr 1986*	*Septbr 1987*	*August 1987*	*Septbr 1986*	*August 1987*	*Septbr 1986*
Employment data										
Establishment Employment[1]										
Nonagricultural Employment	124.2	123.3	119.8	.7%	3.7%	186.1	184.0	175.4	1.1%	6.1%
Manufacturing Employment	73.8	74.5	74.4	−.9%	−.8%	168.8	165.2	159.5	2.2%	5.8%
Nonmanufacturing Employment	152.9	151.2	145.7	1.1%	4.9%	211.4	211.6	198.6	−.1%	6.4%
Unemployment Rate	5.6	5.5	5.6	n/app	n/app	4.7	4.7	4.4	n/app	n/app
Help Wanted Advertising[2]	151.9	148.3	131.4	2.4%	15.6%	154.9	156.3	129.3	−.9%	19.8%
Utilities[3]										
Industrial Electricity Sales	148.5	168.3	155.1	−11.8%	−4.3%	196.1	220.7	198.5	−11.1%	−1.2%
Commercial Gas Sales	135.3	136.1	132.3	−.6%	2.3%	165.7	158.0	182.1	4.9%	−9.0%
Industrial Gas Sales	166.2	256.6	131.4	−35.2%	26.5%	168.2	158.3	171.8	6.3%	−2.1%
Retail Car & Truck Sales[4]										
New Passenger Car Sales	100.7	92.6	121.0	8.7%	−16.8%	97.1	83.7	98.8	16.0%	−3.5%
New Truck Sales	499.6	276.8	364.9	80.5%	36.9%	176.5	115.9	104.4	52.3%	69.1%
Housing Construction Data[5]										
Estimated Value of Permits	1,091.6	571.1	546.6	91.1%	99.7%	563.4	332.3	454.6	69.5%	23.9%
Number of Permits Issued	219.5	133.5	120.5	64.4%	82.2%	180.0	98.2	142.4	83.3%	26.4%
Average Value Per Permit	513.1	470.0	471.2	9.2%	8.9%	326.4	350.5	333.6	−6.9%	−2.2%
Residential Real Estate Data										
Number of Active Listings	1190	1288	1344	−7.6%	−11.5%	1188	1179	1255	.8%	−5.3%
Closed Sales										
Average Days Listed	54	51	55	5.9%	−1.8%	85	86	86	−1.2%	−1.2%
Average Market Price	$55,533	$56,250	$49,740	−1.3%	11.6%	$64,348	$63,314	$54,699	1.6%	17.6%
% of Sale to List Price	92.9	95.8	94.3	−3.0%	−1.5%	99.0	99.0	95.0	.0%	4.2%

[1] *S.B. 1969 = 100, Elk. 1967 = 100.*
[2] *S.B., 1967 = 100, Elk. 1984 = 100.*
[3] *1967 = 100;*
[4] *S.B. 1967 = 100;*
[5] *S.B. 1967 = 100, Elk. 1970 = 100; St. Jos. County excluding cities of South Bend, Mishawaka, Osceola, Walkerton & New Carlisle. Elkhart County excluding cities of Elkhart, Goshen, Nappanee and Millersburg.*

nonmanufacturing sector. Manufacturing employment was off 0.8% in the same period. When placed in context, however, the relatively small decline in manufacturing employment can be viewed as an encouraging sign, since that index had been falling by much larger increments over the past decade. Manufacturing employment has begun to stabilize in the past 18 months in the 73-to-75 range.

The other South Bend/Mishawaka indicator of particular note is the index of new housing permits issued. The housing boom, reversed earlier in the year for the nation as a whole, was still in full swing in St. Joseph County in September. On the other hand, indicators of resale housing activity began to soften, and new passenger car sales followed the national weakness in late summer.

Elkhart/Goshen

The picture in the Elkhart/Goshen area in September 1987 was quite positive. As was the case in St. Joseph County, September employment in Elkhart County was at a historical high. In this case, though, both manufacturing and nonmanufacturing employment showed gains. Both the 6.1% overall gain and the 5.8% manufacturing

employment gain over the past 12 months placed the Elkhart/Goshen area among the few areas where the industrial sector is still the dominant factor. It should also be noted that these employment increases, while prevalent in Elkhart/Goshen's largest industry, recreational vehicles, were found throughout the entire manufacturing sector.

Again as was true in South Bend/Mishawaka, the other Elkhart/Goshen indicator of special note is the index of new housing permits issued. New housing activity in Elkhart County, while not quite as vigorous as in St. Joseph County, was very strong during the recent up phase of the housing cycle—and, unlike nationwide trends, continued strong through September 1987.

Outlook

As is apparent throughout this issue, the uncertainty created by October's stock-market crash makes forecasting a treacherous business. It is our feeling, however, that a recession will not result from this event, in either the South Bend/Mishawaka and Elkhart/Goshen areas or the nation as a whole. It is unlikely, however, that the pace of recent gains can be sustained, especially in durable-goods manufacturing. Accordingly, it is our feeling that conditions here will be flat over the next half-year, with at best minimal gains in employment for St. Joseph County and a slide to around a 3% increase in Elkhart County. □

It is our feeling that conditions in the South Bend-Elkhart area will be flat over the next half-year.

Evansville

Maurice Tsai

Professor of Economics, University of Evansville

After a banner year in 1986, the Evansville economy experienced slow growth in 1987. The growth rate of Evansville Area Business Index was 7.2% in 1986, while only 1.4% is projected for 1987 (see the **Table**).

The local economy grew at a moderate rate of about 3% in the first six months of 1987, but then interest rates suddenly rose because of the Federal Reserve's tight money policy. The Fed's action, taken for fear of inflation, dealt a blow to the growing housing business as well as auto and consumer-durable sales. In October, the stock-market crash shattered consumer confidence. Its effects are still felt on the national and the regional economy. Construction activities, especially highway construction, are still going strong now, but the regional economic growth rate in 1987 cannot be expected to be more than 2%. With the twin deficits (budget and trade), on which little action has taken place, most economists and business executives believe that slow growth will also be the case in 1988. The Evansville economy's growth rate is expected to be 1%. Some economists even predict a national recession, but the odds are low at this time.

In 1988, the Lloyd Expressway and the new airport terminal will be completed, and the construction of Interstate 164 will be in high gear. Therefore, it is reasonable to expect a higher rate of growth in 1989 and after, when the regional economy is better positioned to attract more business to the area and when the national economy is in a healthier condition.

The manufacturing sector of the Evansville region registered a 5% growth in 1987, but its growth rate may be reduced to 2% in the coming year because of slow growth in consumer income and spending. The Evansville area produces mainly consumer goods, and thus it is vulnerable to weak consumer spending. If the region can expand its exports or attract some foreign investment in 1988, a higher growth rate is possible.

In 1988, the Lloyd Expressway and the new airport terminal will be completed, and the construction of Interstate 164 will be in high gear. Therefore it is reasonable to expect a higher rate of growth in 1989 and after.

The trade and services sector has been the most stable and steadily growing of any in this region over the past decade. Its importance to the local economy is equal to or slightly surpassing that of the manufacturing activities. The sector grew 1.7% in 1986 and 1.8% in 1987. Its growth rate in 1988 is estimated to be slightly over 1%, with consumer spending and the slowdown of traffic in the construction area near the Lloyd Expressway playing major roles. Auto sales in 1988 will decrease over 1987's figures because of uncertainty in the national economy, even though interest rates may decline slightly. Health services have gone through rough times in the past few years, mainly because of overexpansion. The situation in 1988 will not improve much, as costs rise and federal action to support this sector seems to be declining.

Construction activities reached a peak in 1986, are still very strong in 1987, and will be so in 1988. The major strength of course, comes from the public construction projects: Lloyd Expressway, I-164, the new airport terminal, and the widening and improvement of the whole city transportation network. The construction index rose 60% in 1986 and declined 8% from that level in 1987. A further reduction of 3% is projected for 1988, which will leave the index still 43% above the 1985 level. The 1986-89 period will be remembered as one of the most active in construction in

Evansville history. Residential construction in the region came alive in 1986, and higher-than-average activities continued from March 1986 to September 1987 as mortgage rates remained favorable and the costs of construction materials were reasonably low. But a sudden rise in the mortgage rates in mid-1987 and the October crash has discontinued the upward trend. In 1988, residential construction may retreat to its 1985 level.

The transportation sector has been rather slow but stable in the past several years except for 1986 and the first part of 1987. Air-passenger traffic increased from 1985 to the present, but it may decline slightly while the new airport terminal is being constructed. After its completion in 1988, and with the improved highway system, a sizable growth in transportation is projected.

The Evansville area's financial sector has grown steadily in the past. Its growth rate was 4.4% in 1986, but it experienced a small setback in 1987 as interest rates rose, discouraging auto sales and residential construction. With a prospect of lowered interest rates, this sector should see a return to growth in 1988. The bank-merger activity of the major local banks will continue in the years ahead.

Regional employment has grown steadily since 1983. Nonagricultural employment reached 125,200 in August 1987. The unemployment rate for Evansville SMA (Vanderburgh, Posey, and Warrick Counties in Indiana and Henderson County in Kentucky) declined to 6.9% in 1986. In 1987, however, the rate rose to 7.3%, as Henderson County's rate jumped. The regional rate has been above the national and state rates in 1987. The 1988 rate is projected to be 7.0% or even lower if job opportunities improve. A further reduction in the regional rate is desirable, especially through efforts to attract new industries.

In short, the Evansville area has had slow growth in 1987, and another slow year is to follow. Afterwards, the regional economy will be equipped with a better structural base tools for faster growth. Its success will depend on the health of the national economy and on local efforts in retaining and expanding the existing industries and attracting new industries and firms. □

Table
Evansville Area Business Index (1977 = 100)

Period	*Industrial Production*	*Trade & Services*	*Construction*	*Transportation*	*Finance*	*Employment*	*Composite Index*
Quarterly Index							
1986:3Q	111.91	111.14	178.67	101.04	111.55	107.35	116.43
1986:4Q	123.13	111.93	174.26	99.61	111.05	109.16	120.24
1987:1Q	127.04	112.40	157.60	98.49	108.91	108.76	120.04
1987:2Q	117.57	112.70	148.30	96.82	108.79	107.75	115.29
Annual Index							
1984	114.99	106.01	103.66	95.03	106.16	103.76	107.95
1985	113.42	108.87	108.70	99.16	105.29	106.82	109.44
1986	116.92	110.70	174.44	99.48	109.91	107.36	117.33
1987 (est.)	122.90	112.72	160.36	97.33	108.80	108.88	118.92
1988 (proj.)	124.75	114.00	155.00	98.00	110.50	110.00	119.80
Annual growth rate (%)							
1985	−1.4	2.7	4.9	4.3	−0.8	2.9	1.4
1986	3.1	1.7	60.1	0.9	4.4	0.5	7.2
1987	5.1	1.8	−8.1	−2.2	−1.0	1.4	1.4
1988	1.5	1.1	−3.3	0.7	1.6	1.0	0.7

Source: School of Business, University of Evansville

Fort Wayne

Thomas Guthrie

Director of the Office of Community and Institutional Research and Associate Professor of Business and Economics, Indiana University-Purdue University at Fort Wayne

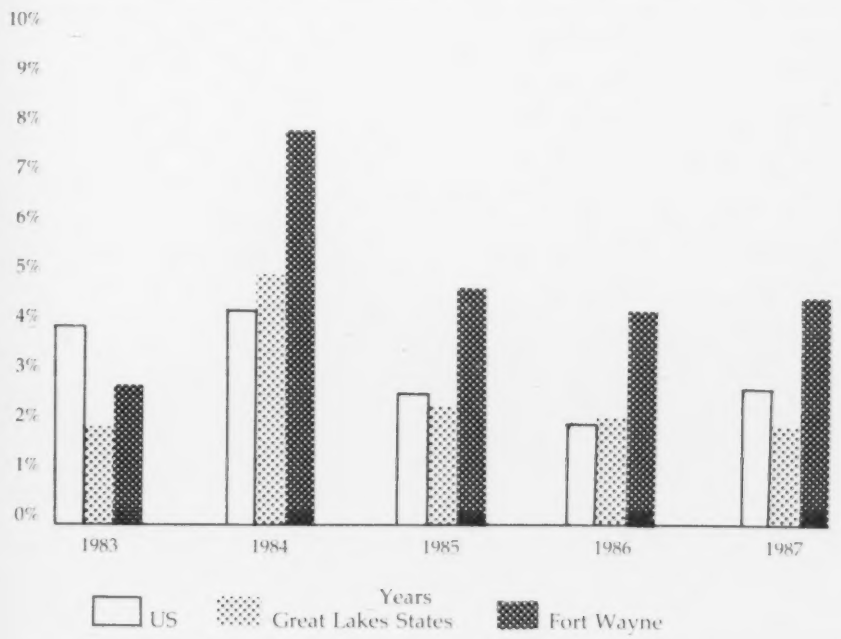
The Fort Wayne area's economy is headed for a fourth consecutive year of above-average growth in 1987, with an increase in employment of 8,000 for the 12 months ending in October.[1] The 4.5% increase compares favorably with estimated growth rates of 2.74% and 1.96% for the nation and the Great Lakes states, respectively (see **Figure**).[2] Fort Wayne's growth has been greater than that of the U.S. for four straight years, and greater than that of the Great Lakes area for five straight years.

The accumulated differences between the annual growth rates in the Fort Wayne area and in the Great Lakes area add up to 18,454 jobs—a conservative estimate of

1. The official Fort Wayne area consists of Allen, DeKalb, and Whitley counties. Employment data for 1987 are subject to substantial revisions.

2. For our purposes the Great Lakes states are Illinois, Indiana, Michigan, Ohio, and Wisconsin.

Figure
Percentage Change in Payroll Employment*
U.S., Great Lakes States, & Fort Wayne Area



**Employment changes are from December-to-December except for 1987. United States and Fort Wayne area 1987 employment changes are from October-to-October. Great Lakes States employment change is from August-to-August.*

Sources: U.S. Department of Labor, Bureau of Labor Statistics and Indiana Employment Security Division, Labor Market and Statistical Services Department.

"permanent" employment growth[3] and 10% of the area's current employment of 185,000.

Economic forecasting is always difficult, but it is especially difficult to assess the likely shape of Fort Wayne's economy in 1988. Based on the possibly heroic assumption that we continue to make our way through the maze of policy issues facing the national economy, the area's economy should experience a sixth year of expansion. Payroll employment is forecast to expand 2%-3%, with all of that coming in the last half of this presidential election year.

Economists are often accused of turning to a more philosophical discussion of the long-run possibilities when they are uncomfortable making a short-run forecast. That accusation notwithstanding, I think it is important to consider the implications for the Fort Wayne area of policy changes likely to take place at the national level in the long run.

If a set of policies were adopted *today* for reversing the trade deficits now being incurred, we still would be likely to run up a $1 trillion debt by 1991. Substantial increases in exports or decreases in imports will be required to service the debt, to say nothing of reducing it. Both are positive for the Fort Wayne area, with its heavy concentration of jobs in manufacturing and its significant agricultural sector. Both sectors offer immediate export opportunities.

The total external debt is likely to exceed $1 trillion by 1991, however, because we aren't even close to adopting a set of policies to reverse the current trend. That means Fort Wayne's advantages are even more important to its long-term economic health.

However, the further away we are from adopting a set of policies to address the trade-deficit problem, the greater is the probability that major blunders will be made in effecting those policies. This, and the finagling of economic policies so often associated with presidential election-year politics, are precisely the reasons that the 1988 forecast is so fragile.

Furthermore, if the national economy does turn sour in 1988, the downturn will likely be accentuated in the Fort Wayne area. Our greater concentration in manufacturing, which was just described as favorable for the long run, could become a liability in the short run. To paraphrase Herodotus, "Great (gains) are usually wrought at great risks." □

3. The analysis assumes that all of the employment growth occurring in the Great Lakes states has been cyclical. If some of the growth in the Great Lakes states is "permanent," then "permanent" growth in the Fort Wayne area is understated.

Lafayette

Gerald J. Lynch

Associate Professor of Economics and Associate Director of the Purdue Center for Economic Education, Purdue University

It does not take much of an analysis to figure that the major impact on the Lafayette economy for this year, and many years to come, is the Subaru-Isuzu plant currently under construction south of

town. Plant officials have reported that the average annual salary there will be $32,000. When the plant comes on line in 1989, there are supposed to be 1,700 jobs. A simple multiplication shows that the plant will inject nearly $55 million in new payroll into the economy. On a national level, it is estimated that $1 in new spending stimulates the economy by a multiple of 2.5. If that multiplier holds locally, the new plant could add as much as $135 million per year to the economy.

There is one obvious caveat here—not all of that spending will stay in the Lafayette area. It is not yet certain where the employees will come from. It is obvious, however, that they cannot all come from the Lafayette area. Lafayette is enjoying prosperous economic times and has an unemployment rate of 3.7%. In actual numbers, that means there are less than 2,200 unemployed in the same area. Most of those people do not have skills or do not necessarily want full-time work. Thus, many of the workers will come from other regions. Those workers will take their payroll dollars with them and spend them somewhere else. Nonetheless, if even half of the dollars stay in the area, that is an injection of $70 million, plenty to keep the economy vibrant.

Not only will the economy's size change with the new plant, its character will also change. The addition of 1,700 new manufacturing-related jobs will make the Lafayette economy more oriented toward manufacturing. Numerous studies have shown that there is a direct correlation between the proportion of a geographic region's labor force engaged in manufacturing and the cyclical sensitivity of that region's unemployment rate. **Figures 1** and **2** demonstrate that link.

Figure 1 shows the percentage of all employment accounted for by manufacturing in the United States, Indiana, Lafayette, and Anderson. Anderson is chosen because it is an extreme example of manufacturing-employment concentration. The chart shows that Anderson has a higher percentage of employment in manufacturing than does Indiana, and the state's percentage is higher than that of the U.S. Lafayette's percentage is below the U.S. average, but with the addition of the new plant it will go slightly above the U.S. average.

Figure 1
Manufacturing Employment

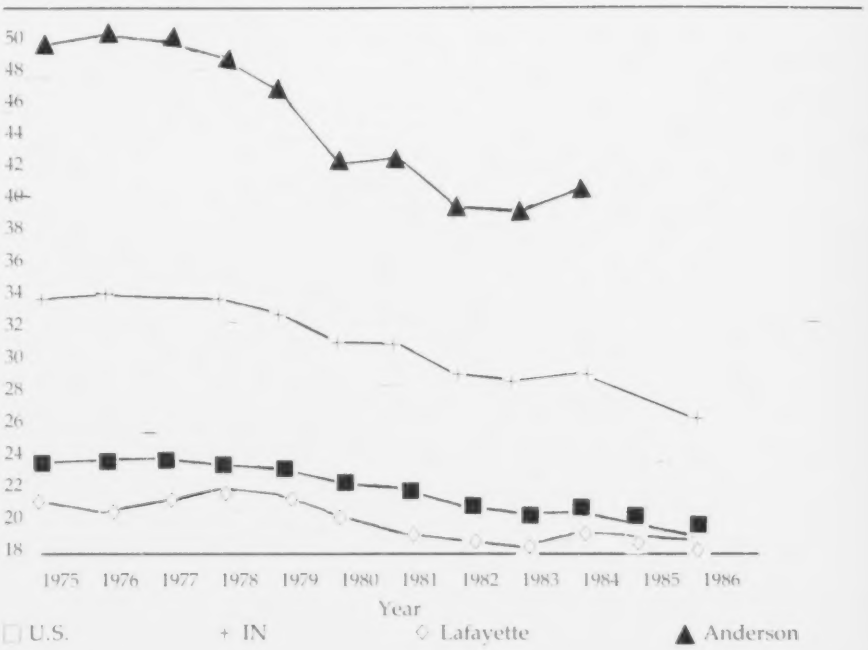
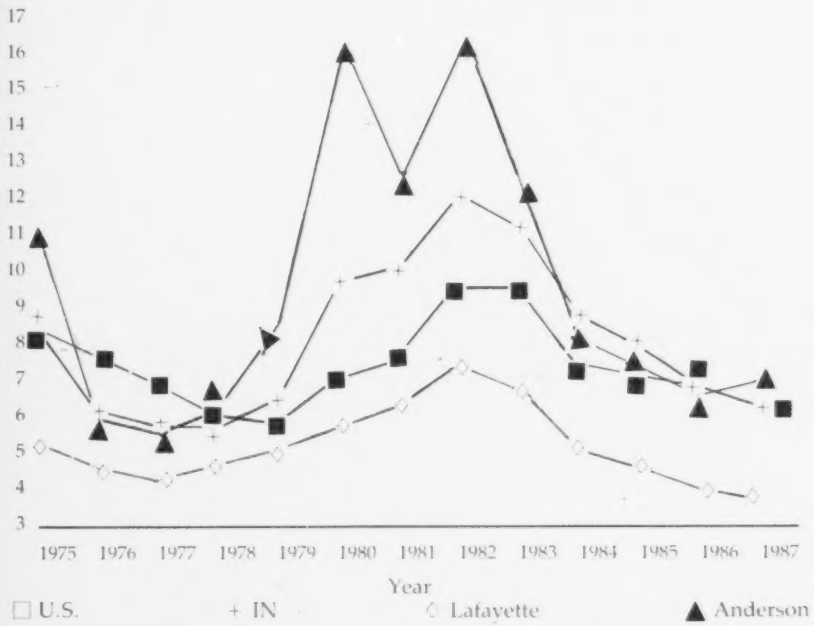


Figure 2 shows a close correlation between the percentage of employment involved in manufacturing and unemployment. The important aspect of the unemployment rate here is not the level of unemployment but the amount by which unemployment changes in a downturn. The more unemployment changes in a region in response to overall economic conditions, the more cyclically sensitive is that region's unemployment rate. Using the U.S. unemployment rate as the measure of overall economic conditions, and using the 1975-1987 data on unemployment, we find that when the U.S. rate increases by 1%, the rate in Anderson increases by 1.96%. Thus, Anderson is twice as sensitive as the U.S. to a downturn in the economy. Indiana is also more sensitive than the U.S. economy, experiencing a 1.49% increase in unemployment for every 1% increase in the U.S. rate. Lafayette, on the other hand, is less responsive to overall economic conditions. Its unemployment rate increases by .71% point when the U.S. rate changes by 1%. Because it has less of its employment tied to manufacturing, Lafayette has been relatively isolated from the economy's ups and downs.

The addition of 1,700 new manufacturing related jobs may change that isolation. The local economy will undoubtedly experience growth because of the new plant, but it will now be more subject to the vagaries of the business cycle. As the old adage says, there are no free goods. However, if we were to ask the residents of the area if they are willing to trade growth for less stability, we would probably find the answer a resounding yes. □

Figure 2
Unemployment Rates



Richmond

Ashton I. Veramallay

Director, Center for Economic Education, Indiana University East

Given the current turmoil in the national and international economies, I expect slow growth in Richmond and Wayne County during 1988. Growth in the first two quarters will be relatively anemic, as the shock waves of October's stock-market crash reverberate.

Consumers are likely to curtail spending on such big-ticket items as automobiles, homes, appliances, entertainment sets, and furniture. Such a curtailment can have serious ripple effects on the local economy, especially in the retail sector. It is important to note that consumer spending accounts for about two-thirds of the gross local product.

Real personal income is not expected to rise significantly in the coming year. This means that the county's median household income will remain below $20,000, with aggregate demand lagging behind the 1984-87 levels.

Apart from consumption activity, the Richmond economy is inextricably linked with the national economy. Most of Richmond's manufacturing sector is heavily dependent on the transportation industry, which may not realize vigorous expansion in 1988. About 70% of the firms responding to my survey are already experiencing, in various degrees, the adverse effects of current economic conditions.

Consequently, unemployment may rise to about 8%, unless it is offset by internal business expansion or by an influx of new firms brought in by the city's department of economic development. Richmond must preserve its manufacturing base to maintain stability, growth, and progress. A minimum-wage city will ultimately affect the quality of life in Wayne County. The 1987 All-America City award will enable Richmond to enhance its visibility and image in the business world in the short run. But it is not a magic wand in the economic-development arena, where both structural changes and multidimensional approaches are required over the long run.

Investment in plant and equipment will be relatively weak because of the expected sluggish performance of the national economy. The falling dollar will provide a much-needed boost to some locally manufactured goods that are sold overseas. Foreigners will find American goods relatively inexpensive and will tend to buy more of them. Americans will find foreign goods more expensive and will tend to buy less. Through the interactions of supply and demand, it is hoped that our trade deficit will narrow, or even balance. But the temporary respite from a falling dollar will not eliminate our economy's vulnerability to the fierce global competition, especially in manufactured goods and textiles.

In an unsettled economic environment, both within Wayne County and outside it, I am not ruling out a recession in 1988—if the following conditions hold:

1. Consumption and investment activities plummet;
2. Foreigners lose confidence in the dollar; and
3. Congress and the administration do not take effective action to cut the budget and trade deficits and discipline the rate of government spending.

In short, we must overcome the panic mentality. In an election year, however, we can expect strategies aimed at continued economic growth, high employment, and low inflation. With the appropriate monetary policy, we may be lucky enough to escape a recession as Reaganomics fades away. □

Columbus

Patrick M. Rooney

Assistant Professor of Economics, IUPUI Columbus

All available data (see the **Table**) indicate that the Columbus employment picture has been stable but flat for the last 12 months. While the unemployment rate has decreased 21% from that of a year ago, the number of persons employed has been fairly constant at around 28,900. This means that some of the unemployed have either left the community or left the labor force.

There is good news. The number of new unemployment insurance claims has fallen steadily, and our Help Wanted advertising index rose sharply from the first quarter to the second quarter of 1987. These factors would seem to show that the local labor market is firming up.

The estimated value of permits for residential construction is up 50% from its level in 1986, and the average value per permit jumped 10% in the last year. These numbers suggest that Columbus residents feel relatively affluent at present. The number of active residential listings is down significantly (40%), while the average market price is 1% higher. This information agrees with the unemployment data mentioned above. The inordinately high number of listings seen last year implies that more than a few residents decided to leave town to seek employment. This trend led to relatively stable housing prices. With new-home mortgage rates down from last year and the employment rate so low, we should expect to see the real-estate market improve as long as the economy continues to grow.

These trends, combined with the fact that several firms are expected to either expand operations or begin production in the area in 1988, would normally bode well for the Columbus economy. The falling dollar should also help, as our products become increasingly price-competitive worldwide.

The forecast slowing of the national economy will likely cause the local unemployment rate to creep up more rapidly than the nation's rate.

However, the local manufacturing base is primarily oriented toward durable goods, a pro-cyclical (orders move in the same direction as the overall economy but to a greater degree) industry. This means that the forecast slowing of the national economy will likely cause the local unemployment rate to creep up more rapidly than the nation's rate, even under the best of conditions. Missteps by either the Federal Reserve Board or the federal government could set off a chain of events that inevitably would hurt this region. □

Table
Columbus-Area Indicators

	1987 II Qtr.	*1987 I Qtr.*	*% Change*	*1986 II Qtr.*	*% Change 1987-1987*
Local Data					
Number of Persons Employed	28,900	28,133	3%	28,933	0%
Number of Persons Unemployed	1,600	2,166	(35)%	2,033	(21)%
Unemployment Rate (%)	5.2	7.1	(27)%	6.6	(21)%
Continued Unemployment Ins.	1,683	3,466	(51)%	2,457	(34)%
New Unemployment Insurance Claims-Columbus	260	485	(46)%	299	(13)%
Help Wanted Advertising (1986 = 100)	123	90	37%	104	18%
Utilities:					
Industrial Electricity Sales (million kilowatt hours)	23,314	20,285	15%	19,093	22%
Housing Construction Data:					
Estimated Value of Permits Issued (000's)	5,847	3,047	92%	3,095	50%
Number of Permits Issued	82	45	82%	60	37%
Average Value Per Permit (000's)	71.3	68.8	4%	65.1	10%
Residential Real Estate Data:					
Number of Active Listings	509	429	19%	852	(40)%
Average Days Listed (Solds)	132	149	(11)%	156	(15)%
Average Market Price	58,734	58,943	0%	58,079	1%
Sales Data:					
Retail Car-New	604	502	20%	761	(21)%
Retail Car-Used	2,750	2,478	11%	3,022	(8)%

Muncie

Robert Jost

Professor of Economics, Ball State University

As the prolonged cyclical expansion enters into its sixth year, the IU forecast of 1.5%-2.5% real growth for 1988 can hardly be interpreted as bad news. However, one should not ignore the important caveat of "the unusual amount of uncertainty" attached to this forecast, given the October stock-market crash and the ensuing turmoil in world financial markets.

The Good News

The most important news in the Muncie area is the planned renovation and expansion of the 17-year-old Muncie Mall. Construction costs of the proposed 200,000 square-foot expansion are estimated at $20 million. The expanded mall will employ at least 400 people, in addition to those involved in its construction. Ground will be broken in April 1988, and completion is scheduled for October 1989. The Muncie area is well situated to service the retail needs of east-central Indiana. Unlike Anderson, Muncie is far enough from Indianapolis to retain a much greater portion of its retail sales.

The downtown transition (see July 1986 *IBR*) continues apace, providing some striking architectural contrasts between traditional and modern design (restored traditional facades dating back to the early 1900s stand opposite a newly completed modern passenger-bus terminal that looks capable of flying). More good news comes from Ball Corporation, headquartered in downtown Muncie. It is constructing an attractive new building in the heart of the city for the Ball Brothers Foundation while concurrently building an $8 million museum overlooking the downtown area just across the river. Legal obstacles and political squabbling continue to plague the proposed combined city-county safety complex, but current *rumor* suggests that compromises, which may result in future action, are in the wind.

Deed recordings in the Muncie MSA were 16% higher in 1986 than in 1985. While some of this increase represents refinancing, new residential construction (both houses and apartments) in 1986 increased some 36% over a very lackluster 1985. According to Miltenberger Associates, who monitor the housing market, the vacancy rate for single-family residences is the highest it has been in a decade, but "at 4.3% is not a cause for concern." The stronger housing market has carried into 1987, as new construction of dwellings, housing renovation, and some major nonresidential construction has kept the construction industry growing.

More good news came from the front page of the Muncie Evening Press on October 14, 1987. The headline, "Employment here nearing all-time high of 52,000," was quoted from a speech made by John Carter, director of Ball State Univerisity's Bureau of Business Research, to the Muncie-Delaware County Chamber of Commerce. Carter predicted, "It is likely that by the end of this year seasonally adjusted employment figures will approach the local all-time high set in the mid 1970s. Muncie has almost fully recovered in terms of our full employment. This is a most promising prospect. We're one of the few communities in the state that is successful in that." Carter went on to say that although manufacturing had declined by 19.5% since 1980, service jobs were up 25.9%, construction jobs were up 25%, and transportation jobs were up 15%. Carter indicated that this business diversification has provided a nonmanufacturing mix that has offset the impact of manufacturing losses. He further said that growth in education and medical fields provides the high-level professional jobs that help offset the loss of relatively high-paying manufacturing jobs.

Certainly this is news that all of us like to hear. But how can one square it with what this analyst wrote in the July 1987 *IBR*—that the Muncie and Anderson MSAs are "pockets of economic malaise" that persist in a state that has shown greater economic rebound than other Great Lakes states? Can it be that this analyst is a chronic bad-news bear, repeating old refrains and oblivious to this positive economic metamorphosis?

A careful scrutiny of the employment data suggests that Carter's figures are on the mark, as are his conclusions about the percentage change in the structure of the Muncie labor force. What one might be inclined to question, however, is how much the growth of nonmanufacturing jobs in the 1980-87 period have offset the loss of high-paying manufacturing jobs such as those at General Motors. Perhaps we can come closer to the answer by looking to county personal income data.

Between 1980 and 1984, nominal personal income for the Muncie and Anderson MSAs increased 24% and 29%, respectively, while that of Indiana increased 33%.

The latest available data for the Muncie and Anderson MSAs' nominal personal income is for 1984. Between 1980 and 1984, nominal personal income for the Muncie and Anderson MSAs increased 24% and 29%, respectively, while that of Indiana increased 33%. Deflating this personal income yields real growth for Muncie of −1.3% and Anderson of 2.9% over the four years. Had 1979, rather than recessional 1980, been used as the initial year, real growth would have been negative for both MSAs. For the state of Indiana, however, real growth in that period was 5.6%. If one converts these percentage gains to average annualized growth rates, Muncie obviously comes up with a negative real growth rate, and Anderson with a paltry .7% (income would roughly double in 100 years). Indiana, on the other hand, achieved a 1.4% growth in real personal income—about 60% of that of the nation.

Although county personal-income data is not available for the 1985-87 period, one might cautiously infer from available nominal payroll data that Anderson did reasonably well in 1985, but suffered a significant decline in its growth rate in 1986-87. This surmise dovetails well with what is happening to the auto market—particularly to General Motors' market share. On the other hand, Muncie's nominal personal income gains, estimating from payroll data, will probably be more consistent with those it achieved in 1983 and 1984. When the needed data become available, these rough approximations, which should be treated with a jaundiced eye, suggest that real personal income in 1987 will probably be slightly above what it was in 1980 in both MSAs. Therefore, can one not conclude, as Carter did, that the gain in nonmanufacturing jobs has largely offset the loss of high-paying manufacturing jobs? That is what the numbers tell us, and Carter has taught this would-be economic analyst a lesson—the interpretation one gives statistical data can be readily influenced by the particular conceptual framework of reference from which one views it.

These conclusions are most surprising in that census data tell us that the Muncie and Anderson MSAs lost 6% and 4.8% of their respective populations between 1980 and 1986. Given this loss of human capital, how can we explain the rise of employment numbers to the levels of mid-1970s, and real personal income to a little above its 1980 level? It must be obvious to the casual observer that there has been an increase in high-level medical jobs (doctors, nurses and technicians), given the construction of several new medical-service facilities in the Muncie area. Certainly the number of computer-software analysts has grown, as has the number of firms dealing in computer services. However, one would not expect much growth of high-level professional administrators in education at Ball State, as enrollment has dropped 500 since 1980. The perennial growth of the government sector in October includes many newly hired part-time students working for Ball State. Perhaps ten of these part-time working students, at best, earn as much as one blue-collar General Motors employee.

Indeed, a high percentage of these nonmanufacturing service jobs (nursing aides, LPNs, fast-food help) pay little better than the minimum wage. How then can one explain the probable slight increase in constant dollar personal income in the 1980-87 period? Part of the answer may lie in the role played by government transfer payments. From 1979-84 (the latest available data), nominal government transfers, which are added to earned income to arrive at personal income, increased some 70% in the Muncie MSA, Indiana metropolitan areas, and the state of Indiana. In the Anderson MSA they grew 74% and in affluent Hamilton County, 78%. In 1979, government transfers constituted 11.9% of personal income in Muncie. The share had climbed to about 15% by 1984. For Anderson, government transfers were 11.8% of personal income in 1979, 16.7% in 1980, but declined to 11.5% in 1984. For Hamilton County they were 6.1% of personal income in 1979 and remained very close to that level in 1984. On the other hand, nominal wages and salaries increased 22% in Muncie, 24% in Anderson, and 27.4% in Indiana. For Hamilton County, the increase was a whopping 69%! In short, the relative growth of transfer payments in the Muncie MSA helps to explain some of Delaware County's ability to maintain previous real personal-income levels.

As to the employment totals again reaching their mid-1970s highs, one might offer the following surmises as possible explanations:

1. Muncie and Anderson probably outpaced the national trend toward two-breadwinner families. Wives felt compelled to find work to supplement the declining earning of husbands who found themselves thrown out of high-paying manufacturing jobs and were forced to settle for much lower-paying jobs in the nonmanufacturing sector.

2. There probably was sizeable growth in the number of individuals holding two relatively low-paying service jobs (thereby being counted twice).

3. The number of people commuting to the Muncie MSA for nonmanufacturing jobs from equally hard-pressed adjacent counties possibly increased.

Assume that the Muncie and Anderson MSAs were huge human treadmills during 1979-87, with their respective citizenry running to maintain or advance their relative position. Many find themselves losing ground, running almost inverted in a tortuous travail. Some abort the enterprise for other treadmills less enervating and more rewarding. For those able to keep up the pace, the eight-year marathon finds them close to where they started, although they wind up dressed in different vocational garb.

While this trauma was playing itself out, most other areas enjoyed a real rate of personal-income growth much greater than that of Muncie, Anderson, or, for that matter, Indiana. Real personal income for the U.S. averaged an annualized rate of growth of 2.6% from 1979-86. From this frame of reference, the Muncie and Anderson MSAs remain pockets of economic malaise. Perhaps recovery, like beauty, lies in the eyes of the beholder. Of the Muncie MSA's 6% loss in human capital between 1980 and 1986, 4,650 were students in its public schools—a 20% decline in enrollment. If construction is up, the nominal and real value of existing homes has dropped since 1980. This is hardly the stuff of which recoveries are made.

The high-paying, frequently unskilled, manufacturing jobs that we have traditionally associated with the motor-vehicle industry will continue to decline or be exported to lower-cost areas. The incidence of these changes will continue to fall more severely on Anderson than on Muncie.

These tentative findings and hypotheses supplement rather than undermine Carter's conclusions. It is hoped that the release of the 1985-86 county personal-income data will give us a better perspective on just what

has happened. To this observer, the Muncie economy did not recover. Rather, it has made a rather painful adjustment to changing economic exigencies. What is remarkable about this adjustment, and the ensuing decline in unemployment, is that the adjustment was made with far less friction and militancy that one might have expected. It would appear that our workers are more resourceful, adaptable, and mobile than many of us thought. It still seems clear that these high-paying, frequently unskilled, manufacturing jobs that we have traditionally associated with the motor-vehicle industry will continue to decline or be exported to lower-cost areas. The incidence of these changes will continue to fall more severely on Anderson than on Muncie. As Carter indicated in his speech, high-paying jobs in the future will be more oriented toward knowledge (professionals, technical managers and the like). This is not to say that Muncie and Anderson will not continue to be manufacturing centers. They will be, for this is where much of their expertise resides. But we had best look to their manufacturing output, rather than the number of employees, to obtain a measure of their importance. □

Kokomo

Dilip Pendse

Associate Professor of Economics, Indiana University at Kokomo

Kokomo's economy stands on two legs: Delco and Chrysler. Both legs remained wobbly through the first nine months of 1987. While the national economy continued its expansion, Kokomo's economy backslid after four years of strong gains.

The year began with nearly 700 workers at the Chrysler plants (18% of the work force) idled indefinitely. By the middle of the year, however, 50% of them were called back to work. In addition, 60 workers from Acustar in Indianapolis were transferred to the transmission plant in Kokomo.

In May, 200 workers at Delco Electronics were indefinitely laid off. By September the number swelled to 700 (10% of the hourly work force). Most of them, however, were absorbed into Delco's Job Bank Program, in which workers regularly draw their weekly wages while placed on special assignment. In reality, these are workers with jobs but no work. As with Chrysler, Delco benefitted from transfers. Sixty engineering professionals from the A.C. Spark Plug division in Flint, Michigan were transferred to Kokomo. As many more are expected to be relocated here next year.

Last year, Kokomo lost more than 1,000 jobs with the permanent shutdown of the Continental Steel operation. This year, Kokomo lost more jobs when Kolux, the signmaker, signed off in June, leaving the future of 180 people in the dark. In addition, Square D in Peru and St. Joseph Hospital in Kokomo cut a combined 150 jobs.

For most of the first three quarters of 1987, the area's unemployment rate remained the second-highest rate in the state's 14 MSAs, with the Gary-Hammond rate being the only one higher.

For most of the first three quarters of 1987, the area's unemployment rate remained the second-highest rate in the state's 14 MSAs, with the Gary-Hammond rate being the only one higher. In June, Kokomo's unemployment rate passed even Gary-Hammond. The official unemployment statistics understate the true picture. If the discouraged workers and the workers in the Job Bank program were added, the rate would be 2%-3% higher than the official rate.

In general, workers seemed to be in a more conciliatory mood this year. While workers at the Square D plant in Peru and Milbank and Solidarity Federal Credit Union in Kokomo went on strike, their counterparts at Kingston Products and Accurate Parts made concessions to management by extending their contract expiration dates. And, with no fuss, workers at Delco ratified the three-year labor contract hammered out in Detroit.

Housing

During the first nine months of 1987, the housing market remained weak. There were no signs, however, of a collapse of the market. Last year, nearly 1,700 existing houses were sold locally, but during the first three quarters of 1987, the inventory of unsold homes swelled considerably. Sales of existing homes remained 15%-20% below the level in the same period a year ago. Home prices remained either flat or lower. No wonder the Center for Real Estate Studies in Bloomington lists Kokomo's housing affordability index as fifth highest among the state's 18 regions. Simply put, the market remains depressed.

The building boom of the past four years (double-digit growth in the number of building permits issued each year) has faded and a correction has occurred. The number of building permits issued in the first three quarters of 1987 was 20%-25% below that of a year ago. New home permits for the same period dropped 30%, and might have gone down even further if not for the relocation of the 60 engineers from A.C. Spark Plug mentioned above. Nonresidential construction has also declined considerably from the levels of a year ago.

Ramifications of the Crash

It has been reported that $1 trillion of household net worth evaporated as a result of the October stock-market crash. Given that one of five households in Kokomo earns more than $50,000 a year, and that people in the upper-income bracket normally own stocks and bonds, my estimate is that local residents lost (on paper, at least) $40 million to $50 million in the crash. Many of the financially bruised families will likely postpone purchases of big-ticket items. Businesses that serve affluent customers will likely also feel the effects of the crash.

Better News

On the brighter side, for the third successive year, Kokomo's median household spendable income remained the highest in the state ($28,154 in 1986). Not only that, the total spendable income of all households in Kokomo has remained above the $1 billion mark for the past three years. And, again for the third year in a row, the percentage of households in Kokomo earning more than $50,000 a year in spendable income has been the highest in the state. According to *Sales and Marketing Management*, Kokomo's national ranking based on median household spendable income has moved up 122 places since 1982.

Also according to *Sales and Marketing Management*, retail sales in Kokomo in 1986 totaled $731 million, up 8% from a year ago and up 50% from five years ago. The magazine says that Kokomo is among the top 70 areas in the nation, with retail sales per household in excess of $19,000. Since 1982, Kokomo has moved up 113 places in that ranking.

This year will be remembered as the year of renovations. Several shopping centers and older commercial buildings received makeovers, at a cost of between $10 million and $18 million. Two of Kokomo's grocery stores, Marsh and Kroger, enlarged their existing stores. Lazarus, Meis, Ace Home Center, True Value, Big R, and others have joined the existing family of hardware and department stores.

The inflation at the check-out stands at local grocery stores remained subdued during the first nine months of the year. Food prices rose less than 1%, thanks to price wars among stores. Residents also have a widening choice of fast-food restaurants. Chi-Chi's has received a warm welcome, and while Three Sisters and Bojangles have left town, Rocky Rococo and Frozen Yogurt have come in. Shoney's will join the crowd in 1988.

Engineered Conveyors, a maker of custom-built overhead and floor programmable conveyors, chose to make Kokomo its second home, taking over the Kolux plant. Through leveraged capitalization, The Prudential Insurance Co. gained a foothold in Haynes International, Kokomo's third-largest employer. Fleet Family Supply Store, Lowell's and Mace's grocery stores, and Kokomo Federal Savings changed their names, and Accurate Parts was bought by Ace Electric, a subsidiary of Echlin Corp. of Bradford, Connecticut.

Other good news came as the Grissom Air Force Base unveiled its $5 million Personnel Support Center, and Delco Electronics opened its $38 million Corporate Technology Center. Kokomo received $1.3 million in federal grants for neighborhood revitalization and traffic-signal modernization projects.

Kokomo's Economy in 1988

Every three or four years Kokomo's economy gets staggered by the one-two combination of an auto slump and a slowdown in the national economy. The U.S. economy probably will shrink in 1988, and Detroit probably will build fewer cars in 1988 than in 1987. Also, although the worst of the quick-and-dirty corporate downsizing in the auto industry is over, more painful cutbacks in personnel likely will take place next year. If so, some jobs at Chrysler and Delco might disappear. Much uncertainty also exists about the future of Accurate Parts and Kingston Products, who together employ between 400-500 people.

Every three or four years Kokomo's economy gets staggered by the one-two combination of an auto slump and a slowdown in the national economy. The U.S. economy probably will shrink in 1988, and Detroit probably will build fewer cars in 1988 than in 1987.

Retail sales in Kokomo should approach the $800 million mark, and median household spendable income should go over $29,000. The housing market will remain sluggish. The official jobless rate will probably vary between 7% and 11%, with the misery index edging up to 15%. Overall, Kokomo's economic environment will remain cloudy for the second year in a row. □

Jeffersonville-New Albany (Louisville Area)

Fay Ross Greckel

Professor of Economics, Indiana University Southeast

During 1987, the seven-county Louisville metropolitan area economy continued to grow, but at a somewhat slower rate than in 1986. The three Indiana counties—Clark, Floyd, and Harrison—lagged behind the Kentucky portion of the metropolitan area in several respects. For 1988, continued slow growth seems likely, with the Indiana counties performing a little better and the Kentucky counties growing a little more slowly than in 1987.

Employment in metropolitan area establishments reached a seasonally adjusted total of 431,700 in the third quarter, an increase of about 9,000 jobs over the same period of 1986. Growth slowed from the previous year, when about 11,000 new jobs were added. **Table 1** shows three patterns of note within the 1987 employment picture. First, although the data presented here in July showed a slight increase in manufacturing jobs in the early months of 1987, data revisions by the Kentucky Cabinet for Human Resources (included in Table 1) indicate that the loss of manufacturing jobs has continued. Some comfort may be taken from the fact that the decline appears to be smaller in 1986 and 1987 than in previous years. (Another data revision is currently underway, so a final look at this trend must await next July's *IBR*.) The job losses in recent months were

Table 1
Louisville Area Employment and Unemployment in Thousands, 1984-87[1]

	Total Nonfarm Employment	Manufacturing Employment	Nonmanufacturing Employment	Unemployment Rate
Louisville Metro Area[2]				
Annual Averages				
1984	396.7	89.2	307.6	8.6%
1985	410.8	87.0	323.7	8.0%
1986	421.4	86.2	335.4	7.0%
Quarterly Averages				
1986:1	417.1	86.1	331.0	7.4%
1986:2	419.6	86.5	333.1	7.2%
1986:3	422.8	86.4	336.4	7.1%
1986:4	425.7	86.1	339.6	6.5%
1987:1	427.6	86.1	341.5	7.4%
1987:2	428.1	85.9	342.1	7.5%
1987:3	431.7	85.3	346.4	6.8%
Clark, Floyd, and Harrison Counties				
Annual Averages				
1984	51.4	13.0	38.4	9.2%
1985	53.4	13.1	40.3	8.1%
1986	55.3	13.2	42.1	6.3%
Quarterly Averages				
1986:1	54.5	13.1	41.5	6.5%
1986:2	55.2	13.2	42.0	6.3%
1986:3	55.9	13.3	42.5	6.3%
1986:4	55.7	13.3	42.4	6.2%
1987:1	55.7	13.3	42.4	6.1%
1987:2	54.7	13.1	41.6	5.9%
1987:3	55.5	13.3	42.1	6.0%

[1]The employment data refer to establishments located within the area cited; the unemployment data refer to residents of the area. Data are seasonally adjusted.
[2]Includes Clark, Floyd, and Harrison Counties in Indiana and Jefferson, Oldham, Bullitt, and Shelby Counties in Kentucky.
Sources: Indiana Employment Security Division; Kentucky Cabinet for Human Resources.

concentrated in tobacco, lumber, and wood-products manufacturing.

The second pattern to be noted is the continued growth of the nonmanufacturing sector, although the gain was a little less in 1987 than the year before. About 10,000 nonmanufacturing jobs were added in the metropolitan area during the first three quarters of 1987. Between the third quarter of 1986 and the third quarter of 1987, the service sector added about 5,000 jobs, construction gained more than 2,000 (with the job increase accelerating each month), and the government and finance/real estate sectors added about 1,200 jobs apiece. Surprisingly, the government estimates of trade employment show nearly 1,000 fewer retailing jobs. Gains in wholesale trade partially offset those losses.

The third pattern of interest is a geographic one. All of the significant employment changes occurred in the Kentucky counties. Total nonagricultural employment in the three Indiana counties for the first nine months of 1987 averaged 55,300, which was nearly identical to the average for the first nine months of 1986. The relative shares of manufacturing and nonmanufacturing jobs remained unchanged, as well. But the underlying trends were not so static. The number of jobs increased each quarter during the first three quarters of 1986, but employment fluctuated from quarter to quarter in 1987. This break, coming after several years of steady job growth, contrasted sharply with the gain of 2,000 jobs between 1985 and 1986.

The estimated unemployment rate for the metropolitan area rose to about 7.5% during the first half of 1987, then fell to a little below 7% in the third quarter. Despite the lack of job growth within their counties, Indiana residents appear to have the lowest unemployment rates in the metropolitan area, with the estimated rate averaging 6% for the first nine months of 1987.

For the first time since the 1982 recession, Dare To Care, the emergency food distribution agency that services the entire region, recorded a decline in the number of persons provided with emergency supplies. While it is encouraging to note that the number of requests honored declined from 60,700 for the first three quarters of 1986 to 57,200 for the same period in 1987, it is clear that many residents of this area still face conditions of severe deprivation.

Contrary to national trends, construction continued to be strong locally, particularly in Jefferson County, where building permits were issued for a record 3,013 single-family, apartment, and condominium units in the first nine months of the year. This represented a 39% increase over the level in 1986, which was itself a record. More than half the permits issued were for apartment units, for which demand remains high. A recent Louisville Area Chamber of Commerce survey showed only a 3% vacancy rate for apartments.

One of the more interesting trends is the building of apartments and condominiums for middle and upper-middle income residents in and near the central business district. It is hoped that this will help provide a more dependable customer base for downtown merchants and restaurants, and that the increase in evening traffic and activities will make the downtown area more attractive to other area residents.

In the Indiana counties, **Table 2** shows that between January and September, about the same number of building permits were issued in Floyd and Harrison counties this year as last year. However, the number of permits issued declined about 10% in Clark County. In all three counties, single-family building increased or remained steady, but apartment building declined—quite unlike the situation in Jefferson County.

Table 2
Residential Building Permits, 1979-1987
(number of dwelling units)[1]

	Jefferson County, Ky.	Clark County, Ind.	Floyd County, Ind.	Harrison County, Ind.[2]
Jan.-Sept. 1979	1860	463	316	n/a
Jan.-Sept. 1982	670	111	200	46
Jan.-Sept. 1983	1766	185	259	115
Jan.-Sept. 1984	1649	193	166	78
Jan.-Sept. 1985	2102	215	232	126
Jan.-Sept. 1986	2165	208	298	122
Jan.-Sept. 1987	3013	295	188	116

[1]Number of residential units for which building permits were issued, including single family dwellings, apartment units, and condominium units.
[2]Excluding Corydon, for which data were not available.
Source: Kentuckiana Regional Planning and Development Agency.

In 1986, the Chamber catalogued a record amount in investment planned for new and expanding industries, and it appears that 1987 investment plans could match or even surpass that.

Although it is more difficult to assess accurately nonresidential construction activity, that appeared to be quite strong as well. In 1986, the Chamber catalogued a record amount of investment planned for new and expanding industries, and it appears that 1987 investment plans could match or even surpass that. This year's construction activity, of course, substantially reflects prior years' investment plans. One such project, the Silliman-Hocker high-rise office building, is finally under construction downtown. Until it is completed, downtown office space will remain very tight. Indeed, there is a scarcity of large-block office space throughout the metropolitan area.

Among other major projects underway now or in the near future are the Hitachi Cable plant, about to begin operations in New Albany; renovation of the former Belknap property to house the new headquarters of the Presbyterian Church (U.S.A.); a Prudential data-processing center; the very substantial expansion of the Ford light-truck plant; and very possibly a significant expansion of the already large UPS operation near the airport.

Real estate sales in Jefferson County through October rose about 1% in dollar volume but declined about 5% in units sold. Nonetheless, since 1986 sales were high, realtors are still viewing 1987 as a good year. Southern Indiana realtors fared even better, selling nearly an identical number of units both years and recording a $2.6 million increase in dollar volume thus far in 1987—a 3.5% gain over the first ten months of 1986.

The most probable outlook for 1988 is continued growth at a very moderate pace. Employment should rise a little more slowly in the Kentucky counties next year, and it should rise in the Indiana portion as well.

The one clearly negative indicator is sales of new cars and light trucks, which fell 3% in Floyd and Clark Counties and 12.7% in Jefferson County during the first three quarters of 1987. Even so, out of the last five years, this was the second best January-September performance for the Indiana counties. It was the second poorest showing for Jefferson County, however.

Taking into consideration what is happening on the national and international scene, the most probable outlook for 1988 is continued growth at a very moderate pace. Employment should rise a little more slowly in the Kentucky counties next year, and it should rise in the Indiana portion as well, unlike this past year. All of the sectors discussed above are likely to grow somewhat more slowly next year, with car sales declining once again. While this is not an exuberant forecast, families and businesses in this metropolitan area should be pleased at the prospect of a sixth year of economic expansion. □

Gary-Hammond-East Chicago (Calumet Area)

Leslie P. Singer

Professor of Economics, Indiana University Northwest

As I predicted over two years ago, steel and manufacturing employment in Lake and Porter County have stabilized. Unless some totally unforeseen events occur, a gradual moderate upturn may be anticipated. In the July *IBR* I predicted a flat steel and manufacturing employment profile for 1987. It appears that I underestimated the rebound in steel.

As shown in the **Table**, Northwest Indiana manufacturing employment fell from 97,270 in the first quarter of the present decade to a low of 48,800 in January 1987. The decline was almost completely uninterrupted, even with a record-breaking national recovery in progress. Based on a recent study we estimate that 10,500 members of the labor force (mostly between the ages of 20 and 35) left the region, about 18,000 retired and continue to draw pensions, and about 5,000 found other jobs in the area. The remaining several thousand moved from the labor force to either the transfer economy or the urban underground economy.

Developments in international trade will affect manufacturing in Northern Indiana. The falling dollar has increased manufacturing exports and reduced imports. This, in turn, has raised the derived demand for steel by domestic producers, even though steel exports from the Midwest are negligible.

How long this trend will continue depends on manufacturers' willingness to hold the line on prices. Wage demands by unions may have to be resisted, and there must be flexibility in interpreting contractual work rules. We must also hope that the Japanese will not increase their efforts to maintain and expand their U.S. market share.

We must bear in mind that while Japan has a highly developed producer economy, its consumer economy is comparatively underdeveloped. This is also true of the true of the Korean economy and others. The U.S. has both a highly developed consumer economy and a flourishing producer economy. It is easy and profitable for the sophisticated Japanese producer economy to find buyers in the well-oiled American economy. On the other hand, it is difficult for us to gain access to the undeveloped consumer economies of our partners. This would be true even in the absence of non-tariff barriers. But local manufacturing firms have a good chance of gaining an export foothold in the Japanese producer sector as long as the dollar continues to fall and domestic prices remain roughly constant.

I do not expect that Japan-bashing is a revolt, nor do I believe that the Japanese will make their claims against our wealth by force.

The predicament we now face as a debtor nation is reminiscent of that of Morocco or other French possessions in the 19th century. The spendthrift Moroccan sultan imported enormous quantities of consumer and luxury goods from France, for which he could pay only by giving up land in his

Table
Northwest Indiana Employment (in thousands)

	1980 1Q	*1987 1Q*	*1987 2Q*	*1987 3Q*	*1987 4Q*	*1988 1Q*	*1988 2Q*	*1988 3Q*	*1988 4Q*
1. Total Employment	256.60	208.07	213.37	217.20	217.95	215.70	221.03	220.97	220.88
2. Manufacturing Employment	97.27	49.27	53.33	55.20	54.50	54.65	56.25	55.95	54.00
3. Steel Mills	63.37	29.27	33.67	35.13	35.05	35.68	37.85	37.15	35.35
4. Manufacturing other than steel	33.90	19.60	19.67	20.07	19.45	18.97	18.40	18.80	18.65
5. Non-manufacturing employment	159.33	156.53	159.90	161.93	163.45	161.05	164.78	165.02	166.88
6. Wholesale and retail trade employment	57.30	49.87	50.63	52.13	53.68	52.61	53.25	52.10	53.95
7. Miscellaneous Services	39.43	44.07	45.27	45.60	45.75	44.21	44.91	45.18	45.35
8. Government	32.13	30.50	30.33	29.63	30.15	30.50	30.10	30.60	30.10

Note: Manufacturing and non-manufacturing employment figures do not add up perfectly because of averaging over quarters. Steel strike: Aug. 1, 1986 to Feb. 1, 1987.

vast domains. As the French settled in Morocco and built French cities next to the native "Medinas," the population revolted. The sultan could not protect the French investors, so the land was occupied. I do not expect that Japan-bashing is a revolt, nor do I believe that the Japanese will make their claims against our wealth by force. But if we cut the federal deficit, reducing the supply of new bonds, while stocks and cash remain unattractive, what can we offer the Japanese other than land for plants in Indiana?

A better solution is to help the Japanese develop their consumer economy. This will certainly occur in the long run, and it should be a boon for our Port of Indiana.

The remainder of the Northwest Indiana economy continues to defy conventional economic models. Our manufacturing sector has lost over $1.223 billion, or about 23% in annual payrolls. One would have thought that such a dramatic loss in the primary income flow would make a significant dent in the domestic economy. Yet, as is shown in the Table, the domestic economy stood firm, except for very small variations of a few hundred jobs.

Some, but not all of the payroll shortfall was offset by an increase in transfer payments. New retail firms, new shopping malls, new apartments, new office buildings, additions to supermarkets, and new fast-food restaurants dot the rural part of Northern Indiana. This is testimony to the area's surprising economic resiliency. New, small manufacturing firms are gradually moving in. This will continue, mostly in the southern part of Lake County and in Porter and LaPorte counties. There is now excess demand in Northwest Indiana for skilled labor, whereas just a few years ago there was excess supply. Now local companies consider sending out recruiting teams to find some of the skilled workers who were trained in our plants before we began cutting our labor force.

Northwest Indiana total employment rose 2.12% in the past three quarters and 4.39% in the past two quarters. This is the first time in many years that we have exceeded the national average.

Are there clouds on the horizon? Because of our many retirees, forced or otherwise, the consumer in Northwest Indiana is very sensitive to a fall in real wealth if the redemption value of stock-based pension funds continues to decline. This may cause hesitation in durable-goods purchases, such as autos, appliances, and other big-ticket items. Consumer investments in homes may also slump if stabilization of the stock market doesn't come in 1988. Moreover, higher interest rates—in the range of 200 to 300 basis points—may reduce total consumer-durables spending by as much as 10%.

The economic horizon is likely to be much more cloudy in 1989. There is a possibility of a recession.

In the interim we forecast for 1988 a 6.98% rise in retail sales in current dollars, a 1.92% decline in consumer-durable sales, a 1.99% rise in the sale of consumer and professional services including health care, a 7.85% rise in food and restaurant sales, and a 3.55% decline in leisure and recreational services. □

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in this issue. . .

Government regulation is rarely subject to the vote of the people. This November, however, Hoosiers will have an opportunity to decide on aspect of that complex subject with their votes on the so-called "lottery" issue. The articles presented here on that popular topic are the result of academic research and should be of interest and concern to all citizens.

Of the many issues that will remain for the legislature if the constitutional amendment passes, one will be, "Who may enter the gambling business?" States that have entered the lottery field in this century have opted for government monopolies. But one could imagine a competitive-enterprise approach that would permit multiple lotteries, regulated and taxed by the state but competing with each other for the recreation dollar. In other heavily regulated industries, the private market operates under conditions established by government. Airlines, banking, and medicine are examples of this practice.

Even the "sin" sector of our society, when commerce is permitted in it, is open to the private sector. In Indiana, cigarettes and liquor are distributed and sold by private firms, not by the state. The regulation of the wine-and-spirits industry has undergone many changes, as social perceptions have varied over time and as market conditions have changed. For an added view of government regulatory issues, we offer a report on a fragment of that industry that does not receive extensive public attention, but which is a fascinating example of public regulation interacting with private forces.

We are indebted to all four authors for their thoughtful approaches to important questions of public policy.

MJM

The Lottery: Its Financial Effects

John L. Mikesell

Professor of Public and Environmental Affairs, Indiana University

Lotteries are the fiscal gimmicks of state finance in the 1980s. They have received legislative attention far exceeding their fiscal significance, have been popular beyond reason, and have spread across the nation like a fire out of control. From being a fiscal oddity, raising disappointing amounts of revenue in New York and New Hampshire in 1970, the lottery has become a common feature of state finance. In 1980, 14 states containing slightly over one-third of the nation's population operated lotteries. They now operate in 26 states and the District of Columbia; two more states, Wisconsin and Virginia, have approved lottery referenda and are setting up administrative structures to operate their lotteries. More than 60% of the nation's population lives in lottery jurisdictions.

The lottery retains remarkable public acceptance. Of the 23 lotteries operating in 1986, 13 had received statewide voter approval before going into operation. Seven more states approved lottery referendums in 1986 or 1987. In fact, since the first modern state lottery began in New Hampshire in 1964, only once, in North Dakota in 1986, has a statewide lottery question been defeated.

How Much Revenue?

During fiscal year 1986, state-administered lottery sales exceeded $11 billion, while net state proceeds after prize payouts and administrative costs exceeded $4.69 billion. Net proceeds in the 14 states that operated lotteries in both 1980 and 1986 grew at the astounding average annual compounded rate of almost 26% per year; the total rate was 32%. On a gross basis, this is a very large revenue pool. But the relative size of lottery proceeds is a different matter. The comparison can easily be made by computing the share of general revenues generated by lotteries. States such as Maryland have occasionally been able to generate as much as 3% of their general revenues from their lotteries. Typically, however, the share is much smaller. The mean share in 1986 was below 1.5%. Of the 23 lottery jurisdictions, eleven had shares below 1%.

What about Indiana? We can hope that an Indiana lottery would perform, in per capita sales, about as well as the Ohio lottery. Ohio has a mature lottery with a full line of products and no major scandals in its past. An Indiana lottery with a similar record might net around $190 million. That is a large figure, but it is still only around 2% of state general revenues. A new lottery, of course, could not be expected to perform at that level immediately. In general, lottery revenue is not likely to be sufficient to remedy any major fiscal imbalance. This is the case even in the urbanized states of the northeast, where relative proceeds from the lottery have been most lucrative. It would certainly be the case in Indiana.

An Indiana lottery with a similar record might net around $190 million. That is a large figure, but it is still only around 2% of state general revenues.

Lotteries Over Time

Research shows that lottery sales are especially sensitive to economic growth, increasing around 3% for each 1% increase in state personal income. This suggests that the lottery could be an effective state magnet for gathering additional resources as economic growth continues. Unfortunately, lottery revenue does not follow a constant pattern over time. A number of forces complicate the flow of lottery sales, the base from which states ultimately generate their profits.

These forces include lottery activities in adjacent states, the maturation of the lottery, the advent and decline of new state lottery products, and so on. Although lottery sales are heavily shaped by marketing efforts, not all countervailing trends can be controlled. This produces dramatic instability of cash flow. The lottery in fact provides neither a sizeable nor a stable revenue foundation for government.

Administrative Costs

All important revenue sources for state government require considerable resources for their collection. Much of the expense is private, involving taxpayer record keeping, accounting, and the like, but the costs of enforcement are not small. Most state taxes can be collected at a cost no greater than 5% or 6% of collections, including both taxpayer and administrative costs. Costs much greater than that would be clearly excessive and would cause a tax to be dismissed as an inefficient revenue producer. On revenue efficiency, the lottery does not rate well. Analysis of several lotteries shows that from 1978-84, the average cost as a percentage of revenue has never been as low as 15%. Only a few times has any state ever achieved a cost percentage as low as 5%. And these percentages are understatements, because lottery accounting principles take most commissions paid to lottery vendors directly out of recorded sales, excluding them from recorded administrative costs. These high costs are necessary in lottery management. They cannot be avoided.

Why not? First, because the lottery must be aggressively marketed and promoted. Without these sizeable marketing costs, total and net proceeds will be disappointing. Second, the lottery customers must be certain that the game has not been fixed. This requires continued security precautions to preserve the integrity of the game. Both marketing and security are necessary elements of successful lottery operations, but both are costly and prevent major reductions in administrative expense. By necessity, the lottery is a remarkably high-cost revenue source. Such revenue inefficiency would disqualify a tax as a revenue source. Lotteries may be immune from that criticism, because they are classed as voluntary payments. But the high costs associated with them show that they do require substantial marketing to be successful. And if marketing is so necessary, how voluntary can the revenue truly be?

It is difficult to determine to what extent the lottery revenue represents new resources to the designated function and to what extent it represents resources that the function would have received anyway from some other state source.

Earmarking Revenues

Many states direct lottery profits to the general fund, but about a dozen designate proceeds for individual items. Lottery profits may be a small part of overall state resources, but wouldn't they be significant for a specific function to which they might be dedicated, such as education?

They could be, of course, but the comparison is not that simple. Lottery profits, regardless of accounting formality, are mixed with other revenues available for state expenditure. Therefore, it is difficult to determine to what extent the lottery revenue represents new resources to the designated function and to what extent it represents resources that the function would have received anyway from some other state source. Accounting reports simply cannot provide the information needed to track down that influence. Some evidence can be seen, however, in states that have both some lottery history and very explicit designation of revenues to particular functions. Michigan, New Hampshire, and New Jersey meet these criteria, and education was the supportive function in each of those states. By comparing the percentage of total state and local expenditures going for education in the years before and after lottery revenues began to be earmarked, one can see whether there was a marked shift as a result of the lottery. Only in New Hampshire did the percentage spent on education increase. There was, in fact, some decline in the other two states. Of course, the decline could have been greater without the lottery, so clear conclusions are difficult. It is impossible, however, to conclude that lottery designation guarantees more money for the supported function. A lottery in Indiana, if earmarked for primary and secondary education, might add around 5% to current spending in that area. That is not enough for a quantum jump, but it certainly is within the range that would allow these funds to be substitutes for, not additions to, the current funds spent on education.

Conclusions

Does the fiscal evidence suggest that a state without a lottery, Indiana, in this case, should start one? The state could certainly function indefinitely without a lottery. It is an entertainment service, being critical neither for anyone's survival nor for the protection of persons or property. If lottery entertainment is important, why can't private businesses, rather than the state, provide the service? The lottery's sole purpose is to provide revenue for the state. That revenue, while large in an absolute sense and capable of rapid growth, would be relatively small, rather unreliable, and expensive to generate. Few positive statements can be made about a lottery's fiscal aspects, except that it does generate some revenue and appears to do no major fiscal damage. The greatest fiscal damage done by the lottery is to divert state attention from more important and more pressing fiscal concerns. □

The Lottery: Its Economic Effects

C. Kurt Zorn

Assistant Professor of Public and Environmental Affairs, Indiana University. For more detail and a complete bibliography, see John L. Mikesell and C. Kurt Zorn, "Another Look at the Structure and Performance of State Lotteries" (Bloomington, IN: Office of the Dean, School of Public and Environmental Affairs, August 1987).

Despite the overwhelming acceptance of state lotteries by the public and politicians alike, it is important to keep in mind some of the significant issues associated with the adoption and operation of a lottery. As one researcher noted, the true worth of a lottery can only be found by a careful and thoughtful balancing of all its economic, political, social, and moral implications.[1]

This article will briefly discuss three significant economic questions about lotteries. Is the lottery a form of taxation? If it is, who bears the burden? What are the limits to growth in lottery revenue? It will also suggest two questions as candidates for further analysis.

Is A Lottery A Tax?

It is argued by some that the application of standard tools of public-finance analysis to state lotteries is inappropriate, because the lottery is not a form of taxation. As a result, they say, public finance-economists should not even try to analyze a lottery. This argument is probably correct: the lottery is not a tax in the strict sense. Participation in a lottery is voluntary, and by definition a tax is compulsory if one performs the acts that are taxed (own property, buy taxable items, earn taxable income). It can then be argued that a state lottery should be viewed as a business being operated by the public sector where the profits go to the state's general fund or are earmarked to some specific expenditure category.

If we look at it this way, if the lottery is indeed a profit-making business, a few interesting questions can and should be raised. Is it proper for the state to be engaged in this type of business? States restrain or restrict private gambling operations presumably because of the negative effects generated by gambling. But there is little distinction between a state-run numbers game, or lottery, and the numbers games being run by the underground sector of the economy. In fact, it's not uncommon for illegal number games to use the winning numbers drawn in a state-run lottery, even using the state game as a form of security in case they sell too many tickets for a specific set of numbers.

There is little distinction between a state-run numbers game, or lottery, and the numbers games being run by the underground sector of the economy.

Is it proper for a state to reap monopoly profits from lottery operations? More to the point, is it economically efficient? Even if a lottery is not a tax, a public-finance economist can still get involved in the issue by talking about monopoly profits.

And why should the lottery be the government service most heavily marketed? A glance at lottery annual reports and newspaper, radio, and television advertisements shows that the merchandising of lotteries is quite intense and somewhat misleading. Lotteries are seldom anxious to disclose critical details of their operations. The odds against winning are not advertised clearly, and the prizes that are distributed are always talked about in total payment over a time period instead of the present value. A million dollars paid over 20 years is not worth a million dollars right now.

It is common for public-finance economists to reject the argument that the lottery is not a tax. They consider net revenue from lottery ticket sales a tax placed on ticket sales, which should be looked at as being similar to sumptuary excise taxes--those taxes that attempt to discourage consumption of a particular item, such as cigarette and alcoholic-beverage taxes and the luxury excise taxes we find in states' fiscal structures. When a state lottery is viewed as a tax, the objections concerning the use of standard public-finance analysis diminish.

When a state lottery is viewed as a tax, the objections concerning the use of standard public-finance analysis diminish.

Is a Lottery Regressive?

Accepting the fact that the lottery is a form of excise taxation, the question becomes, who bears the tax? Who bears the largest burden? At the very least, the same degree of concern for the equity of sumptuary and luxury taxes should be applied to the lottery "tax." Lottery proponents argue that the lottery is ideal, even if it is a tax, because it is voluntary, has broad participation, and is not regressive. Surveys indicate that participation is heaviest in the middle- to upper-income groups, and that the lottery is a game that appeals to a wide spectrum of the population, not just to the poor.

Unfortunately, participation data do not address the question of incidence. Standard analysis of vertical equity asks whether a tax places a greater relative burden on low-income families or high-income families. If the higher burden is on low-income people, the tax is regressive because it reduces the net income of low-income groups relative to that of the high-income groups.

Numerous studies have demonstrated decisively that state lotteries are a regressive form of raising revenue.[2] These studies clearly indicate that the arguments

based on participation rates do not apply to the consideration of equity. There may be quibbling over the degree of regressiveness, but the raising of lottery tax revenues worsens the overall fairness of the state's revenue system.

What Are the Limits to a Lottery's Growth?

We've all heard about the phenomenal growth in lottery revenues. This growth can be traced to two things: new adoptions and increased participation in existing lotteries. By the end of 1986, 27 states had lotteries. Since we only have 50 states in our union, there is a limit to the total number of adoptions. The increase in participation will level off someplace, although no one knows quite where. So there are limits to growth. One researcher concludes it's likely that the growth in lottery revenues will slow before 1995.[3]

Other studies have tried to identify the determinants of lottery sales, and it is clear from the studies that lotteries are affected by employment rates, per capita income levels, and so forth. Any predictions of future growth, therefore, must consider the effects of the business cycle on sales. Probably more important, though, is the finding of some of these studies that other factors besides economic conditions have significant effects on sales. As more states adopt lotteries, there will (of course) be fewer non-lottery states. It turns out, though, that a lottery state that has a non-lottery state on its border will have significant higher sales per capita than a state that has no non-lottery states on its border. The Illinois lottery, with Indiana on its border, illustrates that very well.

Lottery games have also been found to have a natural life cycle. As people get bored with the games, interest wanes and sales decrease. Despite the relative newness of the Lotto game, sales will peak at some point and then slowly slide, as has been the case with instant games and numbers games. Thus, there has been intense marketing, variations in existing games, and creation of new games to ensure total sales do not fall.

It seems likely that the lottery has no aggregate impact on the state economy, that it does simply transfer business activity from one set of vendors to another, but that has not been proven.

Issues for Exploration

At least two significant issues need further analysis before they can be answered definitively. First, there is concern about loss of income that is suffered by a non-lottery state when its citizens cross the border to play a neighboring state's lottery. Almost everyone either makes trips across the border to pick up lottery tickets or knows someone who does. There is ample anecdotal evidence that this border effect exists, although there has been no scholarly demonstration of either its importance, its significance, or of the winnings brought back to Indiana.

Second, there is no consensus on a lottery's impact on a state's business activity. Proponents of lotteries note the sizable commissions paid to vendors who sell the lottery tickets to the public and argue that these dollars stimulate economic activities. Opponents suggest that the commissions represent simple economic transfers--the money is not being spent at other stores on other goods and services, it is just transferred from a grocery store to a convenience store that sells the lottery tickets. It seems likely that the lottery has no aggregate impact on the state economy, that it does simply transfer business activity from one set of vendors to another, but that has not been proven. Of course, if a negative border effect is significant, the lottery state would gain business activity at the expense of the non-lottery state.

Conclusion

There are a number of economic issues that a state should consider when weighing the pros and cons of adopting a lottery. First, the lottery is similar to sumptuary excise taxes imposed on tobacco and alcohol; consumption is voluntary, yet once the choice is made to consume, the tax is compulsory. Second, since the lottery is a form of taxation, it should be subjected to vertical equity analysis, which has typically indicated that the lottery is a regressive revenue source. Third, despite predictions that revenue from lotteries will continue to grow, some evidence indicates that lottery sales growth will slow in the early 1990s This slowdown will increase emphasis on the introduction of new games and the stepped-up marketing of existing games. Without consideration of these points, the state, and its citizens, cannot make informed choices on the lottery question. □

Notes

1. Robert Blakey, "State Conducted Lotteries: History, Problems, and Promises," *Journal of Social Issues*, Summer 1979, pp. 62-86.

2. See: Roger Brinner and Charles Clotfelter, "An Economic Appraisal of State Lotteries," *National Tax Journal*, December 1975, pp. 395-404; Charles Clotfelter, "On the Regressivity of State-Operated 'Number' Games," *National Tax Journal*, December 1979, pp. 543-548; Jerome E. Heavey, "The Incidence of State Lottery Taxes," *Public Finance Quarterly*, October 1978, pp. 415-426; M.H. Spiro, "On the Tax Incidence of the Pennsylvania Lottery," *National Tax Journal*, March 1974, pp. 57-61; and Daniel B. Suits, "Gambling Taxes: Regressivity and Revenue Potential," *National Tax Journal*, March 1977, pp. 19-35.

3. Larry DeBoer, "When Will State Lottery Sales Growth Slow?" *Growth and Change*, January 1986, pp. 28-36.

The Lottery and Pari-Mutuels: Strange Bedfellows

Larry DeBoer

Assistant Professor of Agricultural Economics, Purdue University

Why is there such a controversy over a lottery in Indiana? What started it? The Indiana Constitution currently has a provision (Article 15, Section 8) that reads, "No lottery shall be authorized nor shall a sale of lottery tickets be allowed." In 1986 and 1987, the General Assembly took the first steps in amending the constitution by passing a resolution to eliminate this section and allow lotteries (and other forms of gambling). In November 1988, the question goes to the voters. If they approve the referendum, the constitution will be amended. Then the legislators could, if they wanted, pass a bill that would legalize the lottery in Indiana.

But eliminating this section of the constitution would also make pari-mutuel betting on horse racing a possibility in Indiana. The reason is that in 1979 the Indiana Supreme Court ruled that the anti-lottery clause in the constitution also prohibits pari-mutuel betting on horse racing.

The national trend in lotteries in the last few years is one of great growth: 30% revenue growth annually during the 1980s, sales topping $8 billion in 1985 and $11 billion in 1986, net receipts in 1986 of almost $4.7 billion, and lotteries in 27 states at the end of 1987. The story of pari-mutuels is different. The number of states that currently allow pari-mutuel betting on horse racing is 31. A few states also use the pari-mutuel system for betting on dog racing and jai alai, but almost 90% of pari-mutuel revenue comes from horse-racing. In November 1986, two more states (Kansas and Missouri) adopted pari-mutuel betting. But the revenue raised from pari-mutuels was only $646 million in 1986, less than one-seventh of that raised from lotteries and with several more states having operations. Revenue was down by 9% from 1985, and this continues a trend begun in the mid-1970s of declining pari-mutuel revenues. The declines have been averaging 1.5% per year since 1977, and track attendance has been declining since 1975.

Pari-mutuel betting is, in a sense, a stagnant industry. Lotteries may also eventually stagnate, and sales may stop their current rate of growth and reach a plateau.

There are three big racing states in the United States: California, New York and Illinois. They account for about 60% of the total revenue raised from betting on horse races in the United States. The other 28 states divided the other 40% of the racing revenue, averaging only $7 million apiece. Thus, the revenue potential from pari-mutuel betting is small.

The evidence is conclusive that lotteries are a regressive form of taxation. Pari-mutuels are also regressive, but to a lesser extent. At least one study has shown that pari-mutuels are about as regressive as state sales taxes.

The evidence is conclusive that lotteries are a regressive form of taxation. Pari-mutuels are also regressive, but to a lesser extent. At least one study has shown that pari-mutuels are about as regressive as state sales taxes. The reason is that extra travel time is required to get to a track and an admission fee must be paid to enter a track. Therefore, tracks probably attract people with somewhat higher incomes than do lotteries.

When discussing taxation, we are really discussing the state's extracting part of the consumer benefits of a product from the people who buy that product. When a state taxes cigarettes the price increases, and people who before received benefits from cigarettes for a relatively low price now must pay a higher price. If the same process occurs with lotteries and pari-mutuel betting, there must be perceived consumer benefits from playing the lottery and from betting on horse races. If the taxation aspect of lotteries and pari-mutuels is regressive, then the consumer benefits (the entertainment value) may be progressive (lower-income people may get proportionately more pleasure from lotteries and pari-mutuels).

Lottery and Pari-Mutuel Revenue

The lottery industry, those firms that produce lottery tickets and lottery equipment for the states that have lotteries, has estimated the amount of revenue states could raise from lotteries by taking the U.S. per capita revenue figure for all existing lotteries and multiplying it by the populations of the states that do not have lotteries. In 1986, that figure was $34 per capita. For Indiana, that would mean that 1986 revenue would have been about $187 million dollars. This number probably is too high for two reasons. First, it has been shown conclusively that states with a higher proportion of their populations in rural areas tend to have lower per capita sales. The eight least urban states that had lotteries averaged $34 in per capita sales in 1986, while the seven most urban states that had lotteries averaged $106 per capita in the same year. Compared to the states that currently have lotteries, Indiana is a more rural state. For that reason, Indiana would probably have lower per capita sales than the national average.

The industry's estimate is that states with smaller sales tend to spend a higher proportion of their sales on administrative costs. Indiana, with its relatively small population and its more heavily rural population, will probably be a small-sales state.

The second reason that Indiana's net revenue would probably be less than the industry's estimate is that states with smaller sales tend to spend a higher proportion of their sales on administrative costs. The eight states with the lowest

lottery sales in 1986 spent, on average, 13% of sales on administrative costs. The eight states with the highest sales in 1986 spent only 4% of sales on administrative costs. Indiana, with its relatively small population and its more heavily rural population, will probably be a small-sales state, averaging about $300 million to $400 million in gross sales per year. We could expect 10%-15% of those sales dollars to be spent on administrative costs. If both of these factors (the higher rural population and the higher administrative-cost percentage) are taken into account, a good estimate of net lottery revenue for Indiana is about $134 million, about $50 million less than what the industry is projecting.

If the estimated $134 million in revenue from the Indiana lottery is a small number compared to the state's $7 billion annual budget, then the $7 million *from pari-mutuels is not even worth discussing.*

If the state would use that money for tax relief, the income-tax and sales-tax rates could be reduced by about .5% each. The sales tax could drop from 5% to 4.5%, and the income tax could drop from 3.4% to about 2.9%.

The potential for pari-mutuels depends on the take-out rate set by a state racing commission--the percentage of the betting dollar that is not returned to the bettors as prizes. Other factors that may affect revenue are the state's population, the number of racing days that the commission allows, and the number of tracks built in the state.

In 1977, Indiana did pass a law legalizing pari-mutuels (the Indiana Supreme Court's 1979 decision declared this law unconstitutional). If that law were in effect and pari-mutuel betting existed in Indiana, the state's share of the revenue would be between $5 million and $7 million. This minuscule amount means that if we are considering pari-mutuel betting, we should probably debate it on its merits, not on the amount of revenue it will raise. If the estimated $134 million in revenue from the Indiana lottery is a small number compared to the state's $7 billion annual budget, then the $7 *million* from pari-mutuels is not even worth discussing.

Economic Development Issues

Economic development for the state from the introduction of a lottery would probably be negligible. The major production activity for the lottery, printing tickets and buying equipment, would probably take place out of state. Most states hire out-of-state companies to run their lotteries, so lotteries contribute little to the state's economic development, and the lottery would contribute very little, fewer than 50 people statewide, to Indiana's total employment.

In this year's campaign, we are likely to hear proponents of pari-mutuels talk about the total contribution. It is important to remember, however, that some of this money would be taken from that spent on other activities within the state.

Pari-mutuels would probably have a positive effect on economic development, because the production activities involved in pari-mutuels are performed at racetracks and at horse farms. The three or four tracks that probably would be constructed would create jobs within each county where a track was located. Between $30 million and $50 million could be added to state income if pari-mutuels were adopted. This revenue would be generated through track-maintenance workers, construction workers, ticket takers, parking attendants, and jockeys. One would also expect to see increased vitality in the horse industry.

Although pari-mutuels would contribute between $30 million and $50 million to the overall economy, they would undoubtedly subtract revenue from other forms of entertainment. Instead of going bowling or to the movies, people would sometimes go to the track. The likely net increase in state income will probably be smaller than the total contribution racing makes to state income. In this year's campaign, we are likely to hear proponents of pari-mutuels talk about the total contribution. It is important to remember, however, that some of this money would be taken from that spent on other activities within the state.

Conclusion

Pari-mutuel wagering has a much smaller revenue potential than does a lottery, but it probably has a greater economic-development potential. However, both the revenue and the economic-development effects are small relative to state totals. □

Wholesaling of Wine and Spirits in Indiana

James Palmieri

Research Associate, Indiana Business Research Center, Indiana University School of Business

The wine and spirits industry in Indiana faces an uncertain future. Extensive consolidation of suppliers and drastic reductions in the number of wholesalers complicate any analysis, as does the nature of the product itself.

If wine and spirits are considered goods, then the consumer would be best served if prices were as low as possible. However, the State of Indiana clearly does not view wine and spirits as goods. The Indiana Alcoholic Beverage Laws of 1987 state the general purposes of the Indiana Alcoholic Beverage Statutes as follows:

A) To protect the economic welfare, health, peace and morals of the people of this state.

B) To regulate and limit the manufacture, sale, possession, and use of alcohol and alcoholic beverages.

C) To provide for the raising of revenue.[1]

This article will first discuss the wine and spirits industry in general and give some background information concerning basic liquor laws. Then it will present trends in consumption both nationally and in Indiana, examine the tax structure in detail and explain where alcoholic-beverage tax revenue is spent, look at the decreasing number of wholesalers and what that fact means, and recommend some future courses of action.

The Industry: The Legal Situation

When prohibition was repealed in 1933, the states took primary responsibility for control of the sale and distribution of alcoholic beverages. The states wanted to regulate and control alcoholic beverages from the time they entered the state to the time the consumer bought the product. States have used two methods of meeting this objective--regulation of licensed manufacturers, distributors, and retailers (license states), or monopoly at the wholesale level, retail level, or both (control states). Currently, there are 32 license states (the District of Columbia operates on this system as well) and 18 control states (see **Figure 1**).

In the license states, the manufacturer's control over the retailer is eliminated through the three-tier system of manufacturer, wholesaler, and retailer. In each of these states except Oklahoma and Minnesota (spirits only), suppliers are allowed to enter into franchise arrangements with specific wholesalers to restrict the distribution of their products. In Oklahoma and Minnesota, a supplier is required to make a product available to all wholesalers if it is made available to at

Figure 1
License States and Control States

License States		*Control States*
Alaska	Arizona	Alabama
Arkansas	California	Idaho
Colorado	Connecticut	Iowa
Florida	Delaware	Maine
Hawaii	Georgia	Michigan
Indiana	Illinois	Mississippi
Kentucky	Kansas	Montana
Maryland	Louisiana	New Hampshire
Minnesota	Massachusetts	North Carolina
Nebraska	Missouri	Ohio
Nevada	New Jersey	Oregon
New Mexico	New York	Pennsylvania
Oklahoma	North Dakota	Utah
Rhode Island	South Carolina	Vermont
South Dakota	Texas	Virginia
Tennessee	Wisconsin	Washington
District of Columbia		West Virginia
		Wyoming

Table 1
U.S. Beverage Consumption 1970-1986
Share of Total Market

Category/Type	*1970*	*1975*	*1980*	*1985*	*1986*
Alcoholic Beverages					
Beer	10.3	12.0	12.9	12.4	12.6
Wine	0.7	0.9	1.1	1.1	1.0
Distilled Spirits	1.0	1.1	1.1	0.9	0.9
Coolers	—	—	—	0.2	0.4
Total Alcoholic Beverages	12.0	14.0	15.1	14.6	14.9
Non-Alcoholic Beverages					
Soft Drinks	15.0	17.7	22.9	26.6	27.3
Coffee	18.3	16.1	14.2	13.3	12.4
Milk	14.7	13.6	11.5	11.0	11.2
Fruit Juice/Drinks	4.0	4.7	5.2	5.4	5.5
Tea	3.1	3.5	3.7	3.4	3.3
Water	32.0	29.2	26.2	24.5	24.3
Other	0.9	1.2	1.2	1.2	1.2
Total Non-Alcoholic Beverages	88.0	86.0	85.0	85.4	85.2
Total	100.0	100.0	100.0	100.0	100.0

least one wholesaler in the state. In the control states the state itself is the wholesaler, and in 14 of the 18 states the distribution of liquor to the public through retail outlets is through state liquor stores (and privately owned "agency stores" in rural communities). Mississippi, Michigan, Wyoming, and Iowa limit their responsibilities to the wholesale function.

At-Rest Laws

All license states require an out-of-state supplier to sell to a locally licensed wholesaler, not directly to a retailer through an at-rest law. These laws are designed to discourage the practice of "clearing" (in which wholesale houses write receipts for goods that are never placed inside their warehouses to give the appearance of being the second tier of the system) by requiring all merchandise shipped into a state to be consigned and delivered to a wholesaler. In addition, at-rest laws centralize the collection of taxes by specifying a single point where they are imposed (the wholesaler's premises). Some at-rest laws require the wholesaler to take physical control of the merchandise and deposit it in the warehouse. Indiana's version of the at-rest law states, "The sale, transportation, and delivery of liquor shall be made only from inventory that has been located on the wholesaler's premises before the time of invoicing and delivery. . . ."[2] For wine wholesalers, the law reads, "He (the holder of a wine wholesaler permit) is entitled to sell, furnish, and deliver wine from inventory that has been located on the wholesaler's premises before the time of invoicing and delivery to a wine wholesaler, a wine retailer, a supplemental caterer, a temporary wine permittee, a supplemental retailer, and a wine dealer, but not at retail."[3] The law does not specify a time period that the goods must remain in the warehouse before they can be shipped to retailers. This gives the wholesalers some flexibility to better serve retailers' demands.

Table 2
Consumption Trends

Distilled Spirits:	*1986 1000 Gallons*	*'86v.'85 % Change*	*1981 1000 Gallons*	*'86v.81 % Change*
Blends/Lights	28,488	−10.2	39,568	−28.0
Bonds/Straights	46,933	−11.8	67,343	−30.3
Canadian	46,916	−7.4	54,624	−14.1
Scotch	36,501	−8.9	47,567	−23.3
Vodka	87,767	−3.7	100,597	−12.8
Gin	33,403	−9.1	44,140	−24.3
Rum	30,802	−5.7	32,566	−5.4
Brandy	18,792	−9.6	21,329	−11.9
Cordials	43,803	−0.6	39,641	+10.5
Tequila	8,290	−0.3	7,940	+4.4
Cocktails	9,418	+18.3	8,496	+10.9
Totals	391,804	−5.7	465,268	−15.8

Wine-Foreign and Domestic:	*1986 1000 Gallons*	*'86v.'85 % Change*	*1981 1000 Gallons*	*'86v.81 % Change*
Table	350,567	−7.3	386,696	−9.3
Dessert	34,983	+2.0	42,287	−17.3
Wine Coolers	120,372	+36.8	—	—
Sparkling	44,231	−4.2	34,319	+28.9
Total	586,589	1.1	505,684	16.0

Beer-Foreign and Domestic (1 Barrel equals 31 gallons)	*1986 Barrels*	*'86v.'85 % Change*	*1981 Barrels*	*'86v.81 % Change*
Package	157,409	+2.6	154,546	+1.9
Draft	21,315	−2.1	22,151	−3.6
Total	178,724	+2.1	176,696	+1.2
Foreign-Package Draft	273,978	+11.6	161,848	+69.3

Table 3
Per Capita Consumption of Beer, Liquor and Wine in Indiana

Year	*Beer*	*Liquor*	*Wine*
1974	16.70	1.26	0.67
1975	17.50	1.31	0.76
1976	18.30	1.32	0.76
1977	19.30	1.48	0.82
1978	20.40	1.44	0.92
1979	20.90	1.49	0.94
1980	21.90	1.46	1.05
1981	22.30	1.48	1.10
1982	22.50	1.44	1.12
1983	22.30	1.39	1.14
1984	22.00	1.39	1.27
1985	22.00	1.39	1.35

Table 4
Indiana Gallonage, 1981-1986

	Spirits	*Beer*	*Wine*
1981	8,093,244	123,448,194	5,998,881
1982	7,898,187	124,327,751	6,131,980
1983	7,615,661	123,022,933	6,234,154
1984	7,654,043	121,195,009	6,991,273
1985	7,644,922	120,623,389	7,398,958
1986	7,080,568	121,070,516	7,809,767

Primary-Source Laws

Primary-source laws prohibit nonresident suppliers from selling to wholesalers in the state unless the supplier is the primary American supply source for the brand of wine or distilled spirit. A primary source of supply is defined as a distiller, producer, vintner, rectifier, bottler, brewer, importer, or owner of the alcoholic beverage. Concerning liquor wholesalers, the law says, "A liquor wholesaler shall be entitled to purchase liquor within this state from a person who holds a distiller's permit, a rectifier's permit, or a liquor wholesaler's permit. A liquor wholesaler also may purchase liquor outside this state from the primary source of supply and, from that source, may transport and import liquor into this state."[4] Wine wholesalers "may purchase, import, and transport wine and brandy from the primary source of supply."[5] Indiana's primary-source law also provides an audit trail for excise-tax collection, as it requires that a copy of each supplier's invoice be sent to the Indiana Department of Revenue and the Alcoholic Beverage Commission.

Price-Affirmation Laws

Price-affirmation laws require suppliers to sell to wholesalers at the lowest prices they give any buyer in any state, including monopoly states. Indiana currently has no price-affirmation laws.

Trends in Consumption

The alcohol industry has national gross sales of $44.5 billion and pays federal and state taxes, U.S. Customs duties, and license fees of approximately $12.2 billion. There have been considerable changes in how these dollars are spent. Figures on the consumption of wine and spirits show a significant shift from distilled spirits to wine and beer nationally (see **Tables 1** and **2**).

This national trend away from spirits is also a trend in Indiana, as can be seen in per capita consumption figures.

After a $1.50 increase in the federal excise tax per proof gallon of distilled spirits was imposed in 1985 there was a 5.7% drop in consumption of distilled spirits, the largest sales reduction in more than 50 years. Especially hard-hit were the whiskeys, which showed substantial losses in all categories but still took 40.7% of the total market.

The total wine market in the U.S. reached a record 586.6 million gallons in 1986. This total was due in large part to a 7.7% growth in sales of U.S.-produced wines fueled by a 36% growth in wine-cooler sales (an unknown product just a few years ago). Sales of imported wines

Table 5
Indiana Alcoholic Beverage Sales

	1986 Wine Gallons	*1985 Wine Gallons*	*% Change*	*% of state sales*
Bonds/Straights	928,469	1,093,603	−15.1	13.1
Blends/Lights	705,565	769,427	−8.3	5.7
Scotch	401,941	463,066	−13.2	5.7
Canadians	1,121,484	1,351,186	−17.0	15.8
Other Imported Whiskey	5,188	4,721	9.9	0.1
Total Whiskey	3,162,647	3,682,003	−14.1	44.6
Brandy	159,358	175,892	−9.4	2.2
Vodka	1,249,090	1,359,184	−8.1	17.6
Gin	529,262	565,451	−6.4	7.5
Rum	408,053	512,629	−20.4	5.8
Tequila	121,548	138,753	−12.4	1.7
Cordials	981,594	1,028,925	−4.6	13.8
Cocktails/Misc.	482,074	182,603	164.2	6.8
Total	7,093,626	7,645,440	−7.2	100.0
Wine				
Total	7,810,000	7,399,000	+5.6	100.0
Beer (31 gallons equal 1 barrel)				
Packaged	3,498,572	3,472,020	+0.8	
Draft	412,840	422,898	−2.4	
Total	3,911,412	3,894,918	+0.4	

Table 6
Indiana State Excise Tax Structure

Beverage	*Tax per Gallon*
Malt Beverage	$.115
Liquor, Wine over 21% alcohol	2.68
Wine (21% Alcohol)	.47
Mixed Beverages—15% or less alcohol	.47
Wine-produced by a small winery	.27
Liquid Malt, wort	.05

Table 7
Allocations from Alcoholic Beverage Taxes and Fees (Fiscal Years)

	84-85	*85-86*	*86-87*	*87-88*	*88-89*
General Fund	13,820,406	13,768,181	13,729,228	13,100,000	12,900,000
Dedicated Funds	29,767,196	32,198,466	30,147,733	30,600,000	30,200,000
Totals	43,587,602	45,966,647	43,876,961	43,700,000	43,100,000

were down considerably. Table wines sold 25.4% less in 1986 than in 1985, mostly because of the appreciating dollar against European currencies and consumer fears of the methanol scandal surrounding Italian table wines.

This national trend away from spirits is also a trend in Indiana, as can be seen in per capita consumption figures (**Table 3**).

Table 8
Revenue Distribution Formula

Fund		*Tax/Gallon*
General	Beer	.04
	Liquor	1.00
	Wine	.25
	Small Wine/Winery	.14
Dedicated PWCF[1]	Beer	.0475
	Liquor	1.17
	Wine	.16
	Small Wine/Winery	.09
Enforcement & Administration	Beer	.0075
	Liquor	.11
	Wine	.04
	Small Wine/Winery	.02
Pension Relief Fund	Beer	0
	Liquor	.34
	Wine	0
	Small Wine/Winery	0
Addiction Services Fund	Beer	.02
	Liquor	.06
	Wine	.02
	Small Wine/Winery	.02

1. *Post-War Construction Fund used for the construction of penal, benevolent, charitable, and educational institutions*

Table 9
Comparison of State Alcoholic-Beverage Taxes

State	*Liquor*	*Beer*	*Wine*
Indiana	2.68	.115	.47
Illinois	2.00[1]	.07	.23
Kentucky	1.92	.8645	.50

1. *Cook County, Illinois places an additional $1.00 on liquor, $0.04 on beer, and $1.12 on Wine.*

These numbers place Indiana 38th out of the 50 states in liquor and wine consumption and 34th in beer consumption. The reduction in sales of spirits and increased sales of lighter alcoholic beverages can also be shown by total gallons consumed in Indiana from 1981-1986 (**Table 4**), as well as an examination of 1985 and 1986 sales figures in Indiana for the various categories of distilled spirits, wine, and beer (**Table 5**).

Tax Structure

Indiana state excise taxes on alcoholic beverages are imposed by the tax formula detailed in **Table 6**. Currently, Indiana ranks 17th out of 32 license states in liquor tax per gallon (Florida's is the highest, $6.50 per gallon, while Kentucky's is the lowest, $1.92 per gallon). Indiana ranks 13th among the 32 license states in wine tax per gallon and 17th in beer tax per gallon. Actual fund allocation in 1984-1987 and estimated allocation in 1988-1989 (**Table 7**) reveal that estimated revenues from these sources are expected to decline over the next few years.

Revenues from the various taxes are distributed to the two funds according to the formula in **Table 8**. Permit fees and fines make up a small portion of total receipts. Most of the receipts come from excise taxes. Indiana has a much higher tax rate on liquor than do the license states on its borders, but tax rates on wine

Table 10
Alcoholic Beverage License Fee and Excise Tax Revenues

Year	*Current Dollars*	*1974 Constant Dollars*	*% Change in Real Dollars*
License Fees			
1974	4,901,028	4,901,028	
1975	5,281,597	4,898,765	−0.05
1976	5,696,309	5,114,261	4.40
1977	5,857,583	5,116,165	0.04
1978	6,034,409	4,977,065	−2.72
1979	6,225,846	4,759,666	−4.37
1980	6,304,876	4,460,454	−6.29
1981	6,435,357	4,251,529	−4.68
1982	6,525,914	4,125,254	−2.97
1983	6,657,858	4,053,144	−1.75
1984	6,708,274	3,975,496	−1.92
1985	6,821,699	3,934,791	−1.02
Tax Revenues			
1974	25,106,728	25,106,728	—
1975	26,348,236	24,126,686	−3.9
1976	26,723,809	23,150,185	−4.0
1977	30,256,187	24,608,143	+6.3
1978	33,397,764	25,244,880	+2.6
1979	34,047,672	23,121,108	−8.4
1980	34,927,636	20,902,803	−9.6
1981	35,794,069	19,408,164	−7.2
1982	36,562,449	18,679,604	−3.8
1983	36,946,137	18,287,347	−2.1
1984	37,118,504	17,622,639	−3.6
1985	36,348,598	16,662,594	−5.4

1974 Base using the Consumer Price Index for all urban consumers.

and beer are in the middle of those of the three license border states (**Table 9**).

Since permit fees have remain unchanged for over 50 years, their real value has fallen considerably since 1978 (**Table 10**). In fact, real license-fee revenues collected by the State have fallen by almost $1 million since 1974. The alcoholic-beverage excise taxes in Indiana have risen $.40 since 1973, from 2.28 to the current $2.68, and the wine excise taxes have gone up from $.40 to $.47 per gallon. As a result, nominal excise-tax revenues have risen. But real revenues have fallen drastically.

Wholesaler Issues

The drastic reduction in the number of wholesalers operating in Indiana is a puzzling phenomenon, and one that would appear advantageous to the remaining wholesalers. Yet this is a far too simplistic way of examining the wholesaler issue. Traditional economic theory indicates that wholesalers could make exorbitant oligopoly or monopoly profits. However, this theory leaves out some important aspects.

First, the traditional monopoly analysis is of a firm that produces a product and is not under any pressure from the supply side in the production of the good. The "good" in this case is the storage and further transportation of wine and spirits to the retailers. If the wholesaler decides to mark up the prices he charges to retailers, who also want to maintain their profit margins, then the market price of the good must rise. This will likely result in a reduction of the amount sold. With a declining market in distilled spirits and a relatively slow-growing wine market, maintenance of market share is becoming very important to the suppliers. If a supplier sees its market share declining, it can easily switch to wholesalers who will emphasize its brands more, especially since most supplier/wholesaler contracts do not really safeguard the wholesaler. Most of them can be terminated at will by the supplier in 30 days.

If a supplier sees its market share declining, it can easily switch to wholesalers who will emphasize its brands more, especially since most supplier/wholesaler contracts do not really safeguard the wholesaler.

Florida is just one example of this type of supplier influence; the liquor market there has been like a game of musical chairs. In every big-city market in the state, several brands have recently switched distributors. And Florida isn't the only state in which this is occurring. In Indiana, we have seen many changes in brands carried by wholesalers (**Table 11**). Since last spring, Fred Beck, General, and Standard have gone out of business and LaSalle has become a part of Olinger Distributing. Although Jack Daniels, Brown Forman, and Heublein have showed little inclination to change wholesalers, that is not the case with James Beam and Seagrams Distillers. We have also seen large changes in what brands of wine the wholesalers carry.

How extensive has the consolidation of wholesalers been? One can see the trend in beer and liquor wholesalers in **Table 12**. This trend is not restricted to Indiana, and in fact is becoming national. Florida has had similar experiences. And according to Edward Ashley, President of Wine and Spirits Distributors of Florida, Inc. further movement in this area is expected in the future.

Kentucky places a quota on the number of wholesale licenses that may be issued (one wholesale license for every 31 retail package liquor licenses), and yet wholesalers do not have exclusive territories for wine and spirits. (Indiana wholesalers do not either.) Firms holding wine and liquor licenses can be put into two categories:

1. Those primarily engaged in the wholesale distribution of wine and spirits with statewide distribution; and
2. Those mainly involved in wholesale distribution of malt beverages but who also carry a limited selection of wine or spirits for small areas of distribution.

In the first category there are 22 wholesale wine and liquor licenses held by seven companies, who account for at least

Table 11
Spring 1982-Spring 1987 Terminations and Retentions of Wholesalers

	National	Olinger	Fred Beck	General	Standard	Columbia Heritage	Lake Shore	LaSalle	Terminations	Retentions
Spirits										
Total Terminated	4	1	3	3	2	7	7	5	32	—
Total Retained	10	7	7	9	7	3	2	5	—	50
Wine										
Total Terminated	1	2	1	2	1	1	3	3	14	—
Total Retained	6	0	2	3	1	0	2	1	—	15

Table 12
Beer, Liquor, and Wine Wholesalers in Indiana

	Beer	*Liquor*	*Wine*
Jan. 1982	163	22	47
Aug. 1983	159	23	54
Nov. 1984	140	23	63
Jan. 1986	130	22	74
Jan. 1987	122	19	95
Aug. 1987	N/A	6	N/A

N/A = not available

98% of all sales of wine and spirits in Kentucky. The remaining 12 licenses are held by beer distributors who are not active in the wine and spirits markets. As in Indiana in the last two years, from 1980-1981 and again in late 1986 considerable consolidation took place.

If the number of wholesalers in Indiana is so small now, it might be thought that the suppliers are forced to go through these remaining wholesalers and accept whatever terms the wholesalers demand. But that is not really the case. Assume that there are only two wholesalers in the market. Both decide that a rise in wholesale prices of wine and spirits is warranted. As a result, market prices will likely rise for some products. If profits become too excessive, other investors may start warehouses of their own. As long as the investors can obtain wholesale wine and liquor licenses from the Alcoholic Beverage Commission (which are $500 for wine and $2,000 for liquor per year) and find suitable storage areas, they are in business. If a prospective wholesaler can offer a supplier a lower markup than the other wholesaler, then we would expect a shift toward that wholesaler and away from the current wholesalers. The shift could be significant if a major company (James Beam, Brown-Forman, Heublein, Hiram Walker, or Seagrams, who together constitute approximately 90% of the total spirits market) makes it.

This scenario hinges on two important assumptions. One is that prospective wholesalers know that some suppliers will shift their business to them soon after they open; and, more important, new wholesale permits are made readily available to qualified wholesalers, allowing quick entry into the market. Indiana requires those seeking wine/liquor wholesalers' permits to be Indiana residents (for a proprietorship or a partnership) or to have 60% of the common stock owned by Indiana residents (for corporations). They must also have the appropriate equipment and facilities. Thus even with only a few firms in a market, a competitive structure can be maintained because of the threat of potential entrants.

As was pointed out earlier, suppliers place major restrictions on what wholesalers can and cannot do. One of the wholesaler's principal functions is to maintain a sales force that will sell the supplier's products. The largest wholesaler in Indiana, National Wine & Spirits (with an estimated market share of 25.4% in distilled spirits and 31.2% in wine) currently has 82 salesmen and is proposing to increase that number to 101. It is up to the wholesaler to find retailers who are willing to purchase the products. One might think that a supplier would like to get his product to as many wholesalers as possible to flood the market. Especially with a declining market in distilled spirits, however, suppliers are becoming more concerned with simply maintaining market share.

An inherent conflict of interest comes into play if suppliers provide many wholesalers with their products. The suppliers lose some control in distribution, since they are supplying a larger number of wholesalers; more important, the wholesaler's sales team is forced to decide which brand of whiskey or vodka to push hardest.

The small supplier, or the supplier who provides the wholesaler with a small amount of his total inventory, is not likely to have much effect on the wholesaler, but large suppliers will.

The small supplier, or the supplier who provides the wholesaler with a small amount of his total inventory, is not likely to have much effect on the wholesaler, but large suppliers will. For example, National's gross sales (**Table 13**; specific brands were provided, but National has requested that we label them as brands 1-6 and other suppliers) indicate that three major brands make up 60% of total wine sales. Even more revealing is the fact that the top two spirits brands make up 75% of the spirits National sells and 60% of total gross sales of wine and spirits combined. A discontinued contract (which only requires 30 days notice) would be devastating if either of the top two distilled-spirits brands suddenly decided to go with another wholesaler.

The most straightforward way to see if the reduction in wholesalers is having an adverse market effect is to compare retail prices in Indiana to retail prices in other states. Unfortunately, price data is not maintained. This complicates attempts at an in-depth analysis. Finding prices for all wine and spirits products, while having the advantage of thoroughness, would be much too time-consuming to be practical. Therefore, we have examined only the prices of major brands and sizes in the following major markets: Chicago, Cincinnati, Dallas, Denver, Detroit, Indian-

Table 13
National Wine & Spirits Sales by Supplier

	Wine		*Spirits*	
	Gross Sales	*% of Total*	*Gross Sales*	*% of Total*
Brand 1	9,000	27.3	50,000	42.7
Brand 2	6,500	19.7	40,000	34.2
Brand 3	4,500	13.6	11,000	9.4
Brand 4	3,000	9.1	6,700	5.7
Brand 5	2,500	7.6	3,300	2.8
Brand 6	2,000	6.0	2,400	2.1
Other Suppliers	5,500	16.7	5,500	16.7
Total	33,000	100.00	117,000	100.00

Table 14
Prices of Alcoholic Beverages in Various Cities

	Chi[1]	*Cin*	*Dal*	*Den*	*Det*	*Indy*	*LA*	*Loui*	*Miam*	*Minn*	*NYC*	*D.C.*
Spirits												
Bacardi Rum 1.75 L	10.99	14.99	10.19	15.50	11.69	11.99	11.69	13.99	14.39	12.99	11.95	
Canadian Club 750 ml	6.99		9.19		10.25	6.79	6.99	7.95	7.99	8.99	7.83	
Canadian Mist 1.75 L	10.99		13.99	9.29	15.98	9.99	10.88	11.49	12.99	14.99	12.79	10.98
Dewar's Scotch 750 ml	9.49				13.86	9.89		9.99	10.99	10.49	10.28	10.88
Early Times 1.75 L	9.99		12.99	9.99	15.93	9.99	11.68	11.39	12.34	14.49	12.99	10.95
Gordon's Gin 1.75	9.49		13.99	9.69	14.99	10.99	9.99	11.99	12.99	13.99	11.99	9.99
J & B Scotch 750 ml	9.49			9.49	13.81	9.49	9.99	9.99	10.54	11.99	11.12	
Jim Beam 1.75 L	9.99		14.99	10.19	15.98	10.99	10.99	11.99	12.99	13.99	12.99	10.99
Seagram's Gin 1.75 L	9.99		13.99	9.49	15.44	9.98	9.97	11.99	13.99	13.99	12.80	9.99
Seagram's 7 Crown 1.75 L	9.99		13.99	9.49	16.04	9.97	11.62	11.99	13.49	14.49	12.99	11.99
Seagram's VO 750 ml	6.99				10.31	6.79	7.99	6.99	7.99	8.69	7.99	
Smirnoff Vodka 1.75 L	10.99		14.99	10.29	15.80	10.99	10.58	11.59	12.99	14.39	12.99	9.99
Windsor Canadian 1.75 L	10.99		13.99	8.99	15.20	10.99		11.99	12.99	13.99	12.35	10.35
Wines												
Gallo 1.5 L	2.50	4.19	3.29	2.29	4.29	2.99	2.49	2.99	3.69	3.49	3.54	3.88
Inglenook 1.5 L	3.33	4.89	3.79	2.99	5.99	3.33	2.79	3.49	3.99	4.69	3.33	4.29
Riunite 750 ml	2.50		2.99	1.99	3.99	2.49		2.79	2.99	3.29		2.99
Taylor 1.5 L	2.99	4.89	3.79	3.69	4.28	2.99	2.99	3.59	4.49	3.99	3.83	3.99
Wild Irish, MD or Thunderbird 750 ml		2.69			1.99	1.99		1.99		2.79		
Coolers												
Bartles & James 4 pack	2.99	3.99	3.49	1.99	3.69	2.99	1.99	2.79	3.99	3.49	2.99	2.99
Seagram's Wine 4 pack	2.99	3.99	3.49	2.19	3.69	2.99	2.49	2.79	3.99	3.69	2.49	2.99

1. *Cook County tax of 46 cents per 1.75 Liter bottle and 20 cents per 750 ml bottle is collected by the retailer at the time of sale to the consumer and should be added to the price for Chicago. Cook County also adds 4.6 cents per 1.5 Liter bottle on table wines.*

apolis, Los Angeles, Louisville, Miami, Minneapolis, New York City, and Washington D.C. (**Table 14**).[6] Denver and Indianapolis seem to be the cities with the least expensive liquor and wine. Prices in Michigan, a control state, were much higher than prices in the license states. Data from Ohio for spirits could not be obtained.

Indiana, like almost every other license state, collects taxes on total gallonage, and different tax rates are placed on products with different alcohol content. Therefore, the states are not interested in actually examining and maintaining price figures.

Conclusions and Recommendations

A price survey sent to various major markets cannot determine whether the abrupt reduction in the number of wine and spirits wholesalers in Indiana is having an effect on market prices. A proper treatment would involve the analysis of state-collected price figures over a wide range of products at three different levels: from supplier to wholesaler, from wholesaler to retailer, and from retailer to customer. Unfortunately Indiana, like almost every other license state, collects taxes on total gallonage, and different tax rates are placed on products with different alcohol content. Therefore, the states are not interested in actually examining and maintaining price figures. Cross-state comparisons are further hindered by the variations in state laws. Illinois has enforced territories for wholesalers, but Indiana does not. Because of this no-guaranteed-territory situation in Indiana, suppliers must use a wholesaler who can distribute throughout the state to sell their products effectively. Kentucky's constant-ratio formula of wholesalers to package liquor stores will almost always guarantee a constant number of wholesalers in the state regardless of market conditions, although the number of active wholesalers will change.

Each state should choose a certain number of brands and sizes of wine and spirits making up, say, 80% of the total market, and then collect prices at each of the three levels mentioned above. While this will not give comparisons to past prices, it certainly should reveal the effects of a small number of wholesalers on prices.

The wholesale tier is merely one player in the three-tiered system created after prohibition and designed to prevent the old tied-houses from ever returning. There has been extensive consolidation in the supplier market, which would also be expected to affect prices. Restrictions have been placed on the number of retail outlets selling alcoholic beverages. If only retail prices would be kept, researchers would be unable to determine which tier or tiers actually caused the price increase or decrease. Once again, price recording by a state agency could isolate the tier(s) that are responsible for any price changes.

The Alcoholic Beverage Commission is doing an admirable job by having minimal fees for wine and liquor licenses and by processing applications for these licenses quickly (usually 4-6 weeks) while still performing substantial background checks into potential new wholesalers.

Something else that would help to guard against market control by only a few firms is easy entry into the wholesale market. In this respect, the Indiana Alcoholic Beverage Commission is doing an admirable job by having minimal fees for wine and liquor licenses and by processing applications for these licenses quickly (usually 4-6 weeks) while still performing substantial background checks into potential new wholesalers.

An intriguing preliminary draft of a bill by Senator Carolyn Mosby (D-Gary), who served as a member of the Sunset Committee, would allow retailers to purchase beer, wine, and spirits from other retailers instead of requiring them to purchase from wholesalers. This bill could in effect create a wholesaler/retailer out of such current major retailers such as Hooks, Kroger, and Peoples. A bill such as this might help ensure that retailers can receive their products quickly and at a fair price, but its legality is in serious doubt and its future is not known. □

Notes

1. Indiana Code, Section 7.1-1-1-1.
2. Indiana Code, Section 7.1-3-8-3(b).
3. Indiana Code, Section 7.1-3-13-3.
4. Indiana Code, Section 7.1-3-8-3(c)(5).
5. Indiana Code, Section 7.1-3-13-3.
6. Data provided by Richard Baxter, executive director of the Wine and Spirits Wholesalers of Indiana, from surveys distributed in the major markets.

In the May 1988 Indiana Business Review:

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in memoriam...

George W. Starr served as Director of the Bureau of Business Research in the Indiana University School of Business longer than anyone else. From 1927 to 1954 Starr, who came to I.U. from Ohio State University, molded the programs of the Bureau and helped establish the tradition that made it one of the most respected organized research units in the nation.

Active in the University and in the state, George Starr wrote a biweekly column for the *Indianapolis Star*, served on boards and committees where his advice was valued, consulted and aided Indiana governors of both parties, and taught in the School's growing transportation program. After he left the Bureau in 1954, he continued on the faculty until his retirement in 1962.

A few weeks ago, at the age of 95, George Starr died. His friends and those who have inherited his legacy extend their sympathies to his widow, Cecile, and family.

George W. Starr

The Outlook At Midyear

Bruce L. Jaffee

Professor of Business Economics and Public Policy, Indiana University School of Business

Last December we forecast that the national economy in 1988 would narrowly avoid a recession. Specifically, we predicted that real GNP for the year would increase by 1.9%. The economy turned in a surprisingly strong performance in early 1988, however, and we have revised our forecast of real GNP upward to 2.5%.

The economy seems to have shaken off the fears and uncertainty resulting from last October's stock-market crash. Although the crash's ramifications are still affecting financial markets, consumer spending and overall business investment continue to grow as if it had never occurred. At the end of 1987 our concerns were that consumer spending and business investment would turn cautious. But consumers continue to increase spending in real terms on durable goods, and business investment--especially for computerization, telecommunications equipment, and general modernization--is continuing apace. Automobile sales are especially strong. As the year began, inventory levels of automobiles were very high. However, increases in personal income, high levels of consumer confidence, and major and widespread rebate programs by domestic producers have led to sharp increases in automobile sales and resulting reductions in inventory levels.

Our trade situation continues to improve--as we forecast. The driving force behind this improvement is the export sector.

Our trade situation continues to improve--as we forecast. The driving force behind this improvement is the export sector: Americans continue to buy large amounts of foreign goods, in spite of continuing declines in the value of the dollar. Government monetary policy turned expansionist following the crash, but recently has become more conservative as the Federal Reserve Board has shown a concern about inflation. The unemployment rate is at its lowest level in this decade (5.4% in April). The labor force participation rate has been at or near record high levels since the fourth quarter of 1987. Even farm incomes have shown some improvement in the last six months, after being in the doldrums for the last few years. The drought is likely to reverse that trend, however.

Even farm incomes have shown some improvement in the last six months, after being in the doldrums for the last few years. The drought is likely to reverse that trend, however.

There are several points of concern, however, in this midyear look at the 1988 economy. Capacity utilization in the manufacturing sector is quite high and suggests that inflationary pressures may build. With relatively low spending on plant expansions, many domestic manufacturers have few resources to effect significant output increases in the next few years. As mentioned above, improvements in our trade balance have come primarily from increases in the demand for our exports. Protectionist efforts or weaknesses in demand for our products by our trading partners would be cause for great concern. Although we expect only modest increases in interest rates

and inflation during the remainder of 1988, the trends are certainly opposite of what we have seen in the last few years, and may lead to deteriorations in consumer and business confidence. On balance, however, we believe that 1988 will proceed as we forecasted last December: a year of very modest but positive growth.

Consumption Spending

J. Fred Bateman

Chairperson and Professor of Business Economics and Public Policy, Indiana University School of Business

The other shoe has not yet dropped. If our original forecast holds true, it probably never will. Last fall's stock-market crash was widely anticipated to alter consumer expectations, rendering buyers more pessimistic and thereby reducing their spending. The domestic domino theory held that knocking the consumer prop out from under the lengthy economic expansion would eventually bring on a recession. After all, the gloomy forecasters proclaimed, the nation--in both the private and public sectors--had been on an extended spending spree that had propelled the U.S. economy during the Reagan years. Many, in fact, noted the irony of this president's almost Keynesian encouragement of deficits and spending. With the private consumer pulling out of the game in a post-crash daze, they argued, the game would be over.

Many, in fact, noted the irony of this president's almost Keynesian encouragement of deficits and spending.

In our evaluation last fall, we could not foresee this turn of events. We thought that consumer spending would fall substantially below its growth rate in the recent past, but we did not envision its turning negative. Consumer spending would slip from its role as the primary economic engine for growth in 1988, we believed, yet it would still provide a positive contribution to the economy's continued expansion. We concluded that consumer durables would be the most weakly performing consumption component--but not because of psychologically-induced events emanating from the stock market. Given the massive purchasing of durables during the past several years and the possibility of sharply rising prices for products manufactured overseas, we simply foresaw a reduced appetite for automobiles and other durables. On the other hand, we expected consumption of nondurables and services to remain relatively robust. Services, whose spending trend has been upward for years, was anticipated to be the strongest of the consumption components this year. In light of these offsetting forces, we believed that consumer spending would not become a negative economic force. We asserted that "consumption's role in propelling national growth will be diminished substantially during the coming year," but that it would not induce a recession. The other shoe would not drop in 1988.

Partly as a consequence of reduced savings, consumption spending remained strong early in 1988.

At midyear we see no reason to alter that conclusion. During the fourth quarter of 1987 total durable goods expenditures did drop, primarily because of a slowdown in spending related to motor vehicle purchases, but both nondurables and services spending actually increased. Partly as a consequence of reduced savings, consumption spending remained strong early in 1988. As a result, our confidence in the original consumption forecast for this year is still high. There is a growing belief among economists that things may not be so rosy during 1989, but that the worsening will not have been caused by the October crash.

The real historical lesson seems to be that our institutions differ substantially today from 1929, largely as a result of experience gained in the Great Depression.

Why did many expect a severe drop in consumption as a consequence of the stock market's behavior? Some apparently possessed a vague feeling that "something has to happen" after such a traumatic financial convulsion. The real economy, they hypothesized, simply had to be affected adversely. Others relied on a more factual foundation. Using historical analogy, they saw disturbing parallels between 1929 and 1987. The real historical lesson, however, seems to be that our institutions differ substantially today from then, largely as a result of experience gained in the Great Depression. The Crash of 1987 was the strongest test yet of these new institutions and of our new economic knowledge. Thus far, they and we have performed well. While we cannot foretell events over a longer term, we can at least proclaim that the financial tumult in 1987 has not destroyed the consumption underpinning of the current economic expansion.

Investment Spending

R. Jeffery Green

Professor of Economics, Indiana University

Our 1988 outlook for business spending on plant and equipment called for modest growth. The strongest components were expected to be business spending on computers and telecommunication equipment, whereas spending on both residential and nonresidential construction and inventory investment were forecast to lack luster. So far in 1988, with the exception of inventory investment, the directions of the trends have been as expected; the magnitudes of some of the changes have been remarkable.

It is likely that there are still opportunities for expanding the role of computers in many businesses.

In the last six months nonresidential investment spending in constant dollars has grown at an annual rate of 14.6%--far greater than the 3.3% growth experienced in 1987. Much of this growth has been concentrated in spending on computers and information processing equipment, which has risen at an annual rate of 20.4% (in constant dollars) over the last six months. That rate is clearly not sustainable, but it is likely that there are still opportunities for expanding the role of computers in many businesses. Spending on industrial machinery has been fairly flat for some time, but it may experience some pickup as export markets improve and capacity becomes increasingly tight.

Investment in nonresidential structures has been in a slump for several years as a result of overbuilding and the problems in the petroleum industry (where rigs are counted as structures). Tax reform also lessened the tax advantages of some construction projects. Nonresidential investment in structures, in constant dollars, fell at an annual rate of more than 5% in the first quarter of 1988. The level at the end of the quarter was more than 15% below the peak reached in the second quarter of 1985. We may be near a turnaround in investment in structures, with oil prices stabilizing, but our forecast is that such a turn will not occur until 1989. Some small additional declines are expected for the rest of 1988.

The outlook for residential investment is not particularly bright. We expect housing starts to decline in coming months as mortgage rates move higher.

The outlook for residential investment is not particularly bright. For several months, housing starts have hovered at an annual rate in the neighborhood of 1.5 million, below the level reached in 1987. Recently, interest rates have begun to move up. We expect housing starts to decline in coming months as mortgage rates move higher.

Inventory investment was very strong in 1987, and last year ended with considerable excess automobile inventories. As a result, we expected inventory investment to be much lower in 1988 than in 1987. The results for the first quarter of 1988 show a substantial reduction in nonfarm inventories, as expected, but in addition show a large, unexpected increase in farm inventories. This increase is the result of farmers' paying off government Commodity Credit Corporation loans and taking control of the inventories. When such loans are made they are counted as government purchases, and if they are paid off, they are counted as negative government purchases and increases in farm inventories. Commodity prices in the first quarter were high relative to support prices, so farmers paid off their loans with the anticipation of selling the crops. This is a temporary phenomenon, however, and inventory investment should be lower in coming quarters than it was in the first quarter.

The overall investment outlook is mixed. Spending on business equipment will remain strong but will be partly offset by declines in spending on residential and nonresidential structures and in inventory accumulation. We now expect total investment spending to rise almost 12% above the level of 1987, providing one of the major sources of economic growth for 1988.

Government Fiscal and Monetary Policy and Inflation

George W. Wilson

Distinguished Professor of Business Economics and Public Policy, Indiana University School of Business

The surprising strength of the economy, shown by the first quarter's GNP growth, is welcome news indeed. The huge inventory buildup in the last quarter of 1987, and the wide belief in the negative and permanent impact of the October market crash upon consumer spending amid overall uncertainty and caution, led to expectations of a sluggish first half, and certainly a sluggish first quarter, of 1988. The reported 3.6% real GNP growth is just slow enough to allay fears of gathering inflation (it is below the 3.8%, 5.4%, and 4.4% growth rates for the first quarters of 1985, 1986, and 1987) and strong enough to reinforce the views that the economy is still on a bit of a roll. Certainly it portends no recession during 1988. Infact it strongly attests

to the resiliency of the economy, which continues to grow despite the above-noted contractionary forces and even with very large actual reductions in residential construction and federal government spending during the quarter. The real market economy continues to outperform its vacillatory, wimpish financial counterpart.

The reported 3.6% real GNP growth is just slow enough to allay fears of gathering inflation and strong enough to reinforce the views that the economy is still on a bit of a roll.

What this all means is that fiscal policy *can* stay on the track outlined here last December toward a fiscal year nominal deficit of less than $130 billion. This was based upon a growth in nominal GNP of at least 7% that should translate into a roughly equivalent increase in federal government revenues. If outlays can be held to about a 4% increase, then a budget deficit of $126 billion is achievable. It should be noted that this figure is well below the GRH target for 1988 ($144 billion) and even further below the OMB and CBO estimates of $147 billion and $157 billion. Yet the assumed growth rates of 7% and 4% seem more likely now, since federal spending fell sharply during the first quarter and nominal GNP has averaged more than a 7% increase over the last two quarters. In addition, defense spending will grow more slowly, in both nominal and real terms, from now through the early 1990s. With a little luck and some conscious efforts toward slowing entitlement outlays (especially unemployment compensation and farm price supports), it should be possible to contain outlay increases to the 3-5% range. If so, by fiscal 1993 the federal budget will be in balance. This is not necessarily good news, but it will make a lot of people happy. I give one cheer for fiscal "policy."

Monetary Policy and Inflation

With the threat of an imminent recession fading, with few signs yet of serious inflationary prospects, and evidence in real terms that the trade deficit is improving, the Fed need do little more than watch events carefully over the next several months. The Fed's goal (announced Feb. 23-24) of targeting M_2 and M_3 growth rates at between 4-8% to "support economic growth at a pace that is consistent with continued external adjustment and progress over time toward price stability" seems reasonable enough.

Thus, while all is not right in the economic world, 1988 is starting out better than most of us thought. For that I grudgingly concede two cheers.

The International Economy

Michele Fratianni

Professor of Business Economics and Public Policy, Indiana University School of Business

In the December 1987 issue of the *IBR*, we wrote that the sizeable increase in U.S. net exports was caused to a large extent by the depreciation of the dollar. We also questioned whether the exchange rate by itself could turn around the U.S. current account. To quote: "There are many economists who argue that, given the slow progress of international cooperation, the dollar ought to be allowed to seek its natural value--the value that would restore equilibrium in the current account. The difficulty with this . . . is that expected depreciations of the dollar would trigger sales of foreign-owned U.S. government securities, an action that would force interest rates to rise in the United States. Another difficulty with additional dollar devaluations is that the inflation rate would be adversely affected. The Federal Reserve Board would have to tighten monetary policy to offset the price-level consequences of the depreciation."

The strength of the U.S. economy, coupled with a large Federal budget deficit, makes additional dollar devaluations virtually inevitable.

Six months later, the analysis remains valid. The U.S. economy has remained surprisingly strong. The unemployment rate is approximately 5.5%, a full percentage point below the level of a year ago. Economic activity is putting upward pressure on interest rates. Despite a relatively stable pattern of prices, there is a growing consensus that the direction of the inflation rate is changing. According to a recent survey, purchasing managers are reporting higher prices, more shortages, and increasing backlogs.

The strength of the U.S. economy, coupled with a large Federal budget deficit, makes additional dollar devaluations virtually inevitable. The U.S. dollar has lost ground relative to major currencies, in particular the Deutsche mark and the Japanese yen, since the end of the year. Official interventions in the exchange market will slow the dollar decline but cannot stop it. An average dollar depreciation of 5-10% from present values is probable.

New trade legislation would raise the uncertainty of the forecast. It is not clear that any proposed bill, should the President sign it, would reduce the trade deficit. Foreign investors may actually

place more funds in the United States to avoid the costs of the added protection. The higher inflow of capital would tend to appreciate the dollar and make the trade deficit larger.

It is not clear that any proposed bill, should the President sign it, would reduce the trade deficit.

Our expectations are that the President will veto any highly protectionist legislation, as he did earlier this year, and that Congress will not have enough votes to override the veto. On this assumption, we forecast net exports in constant dollars at $-130 billion for the year.

Interest Rates and Financial Markets

Donald L.Tuttle

Professor of Finance, Indiana University School of Business

There is a consensus developing that the U.S. stock-market plunge in October had only a moderating effect on the economy and economic growth. The wealth loss and uncertainty generation that the crash created only served to offset the economic positives that were beginning to become excessive last fall. The temporary respite afforded by the set of offsetting forces has run its course, however, and the economy is essentially back where it was in early October.

In mid-May we saw low unemployment, moderately high capacity utilization, a continuing trade deficit largely caused by import penetration of the newly industrialized countries, continuing budget deficits, increasing wage rates, increasing restraint by the monetary authorities, and rising inflation. The result will likely not be a recession during the last half of 1988, but an economy that may approach 0% real growth by year's end and an inflation rate in the 5.5-6% range.

The downward movement of rates anticipated for the first quarter of 1988 has been retraced. We expect rates to move further upward.

Not unlike late 1987, the yield curve for U.S. government securities in mid-Spring 1988 ranged from about 6.2% (for short-term) to about 8.4% (for intermediate-term) to about 9.2% (for long-term). The downward movement of rates anticipated for the first quarter of 1988 has been retraced. We expect rates to move further upward, to about 6.5-7.5% for short-term, 8.5-9% for intermediate-term, and 9.5-10% for long-term Treasuries by the end of the year.

The upward trend in rates is likely to be gradual and somewhat erratic; economic growth is not expected to be strong, private credit demand is easing, and the Federal Reserve will likely attempt to maintain an even keel because of the election and problems in the banking system. Moreover, a second stock-market tumble could temporarily (or longer, depending on its magnitude and causes) reverse the expected gradual rise in rates.

The forecast for the stock market is for lackluster returns for much of the balance of 1988, primarily because market participants do not know how to price the perceived higher risk growing out of last October's crash. Favorable effects from corporate acquisition activity, an absence of new equity supply, no immediate recession worries, better-than-expected corporate earnings, improving monetary indicators, and a stabilizing dollar should not be enough to overcome uncertainty worries. Should interest rates move to the high end of the projected ranges and there be strong expectations of a recession in 1989, stock prices could become extremely vulnerable as the end of 1988 approaches. For this forecast to be more optimistic, two things must happen: the economy would have to exhibit a stable low-growth (approximately 1.5%) scenario including slower consumer spending, lower energy prices, substantially easier monetary policy and lower interest rates abroad, and a higher dollar exchange rate; and the stock market would have to experience significantly larger corporate acquisition activity.

Should interest rates move to the high end of the projected ranges and there be strong expectations of a recession in 1989, stock prices could become exceedingly vulnerable.

The result is a forecast, in return/risk terms, that is relatively favorable for money market instruments and high-grade, short-maturity (2-4 year) bonds, and relatively unfavorable for long-maturity bonds and common stocks. The recommended asset allocation for the typical balanced account remains 30% in cash equivalents, 30% in short-term, highest-quality bonds, and only 40% in equities.

Indiana: Doing Better, and Hoping for Better Still

Morton J. Marcus

Director, Indiana Business Research Center, Indiana University

The past year has been good for the Indiana economy. The rate of increase in employment in the state outpaced that of the nation, as seen in **Figure 1**. While the nation has enjoyed employment gains of 3%, Indiana's rate of growth topped 4%. In each major category of employment except government service, the Hoosier state has increased employment at a better-than-average rate.

These employment gains have been translated into superior income growth. Indiana's increase in personal income in the fourth quarter of 1987 (the last quarter for which we have data from the U.S. Bureau of Economic Analysis) was better than the nation's and greater than that of any other state in the region (see **Figure 2**). In fact, for the year from fourth quarter 1986 to fourth quarter 1987 Indiana also outperformed both the nation and other states in the region.

In four of the last five quarters, Indiana's personal income has risen faster than the nation's, a major improvement from the preceding seven years.

In four of the last five quarters, Indiana's personal income has risen faster than the nation's, a major improvement from the preceding seven years. During those 28 quarters, Indiana's rate topped the national growth rate only five times (see **Figure 3**). This sad record forced Indiana to trail the nation's progress both in the long recession of 1979-1982 *and* in the recovery period from 1983 to the present. In **Figure 4** and the **Table**, we can see that nominal personal income in the nation grew by nearly 40% in each phase of the business

Figure 1
Percent Change in Employment
1986 to 1987

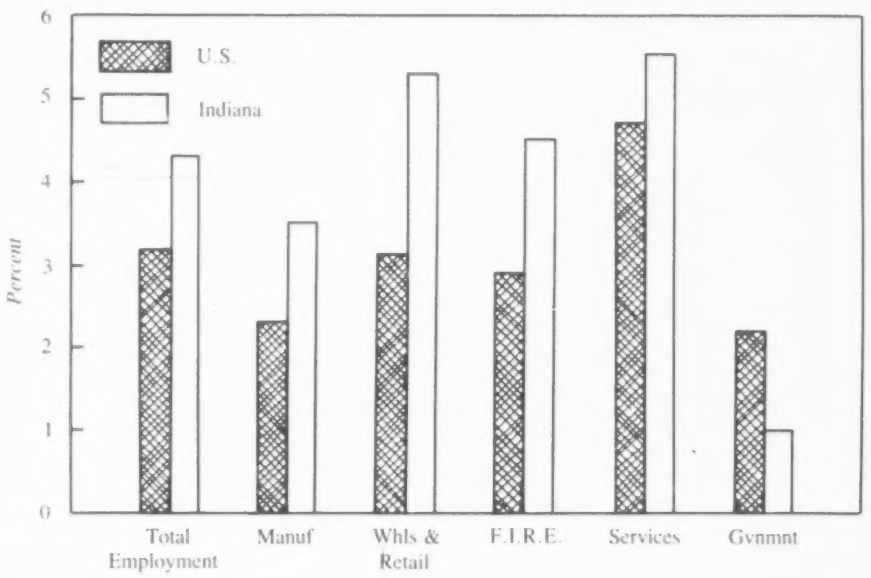


Figure 2
Growth Rates in Personal Income
One year and one quarter

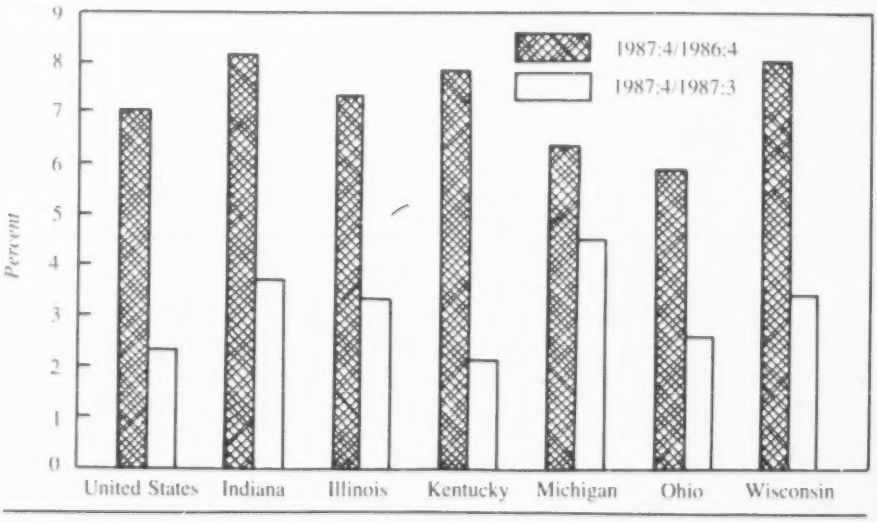


Figure 3
Indiana Personal Income Growth Compared with the U.S.
Differences in percent change

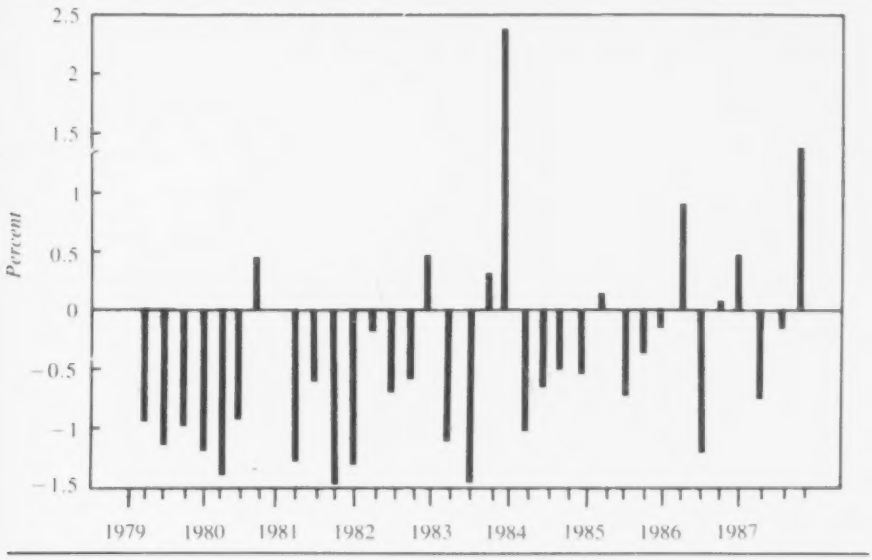
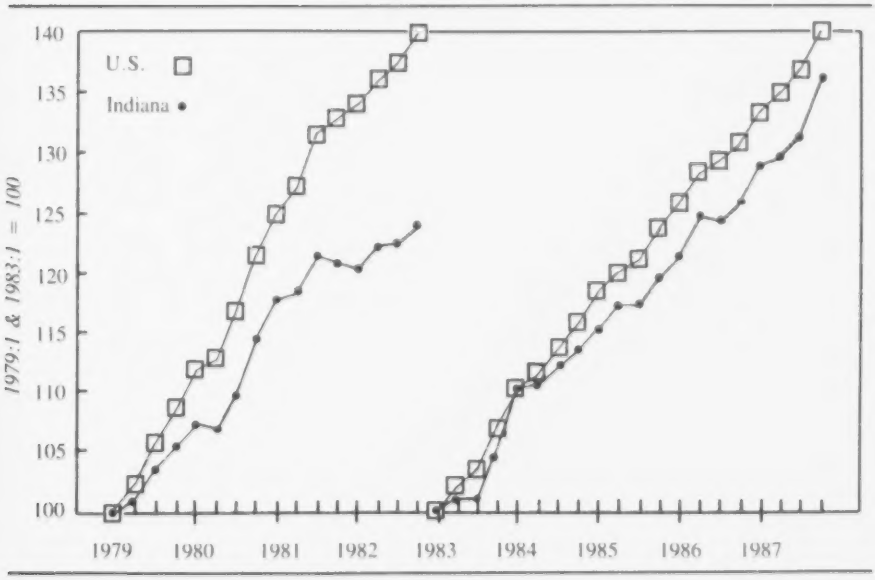


Figure 4
Growth Paths of Personal Income
Recession and Recovery



cycle. In the recession phase Indiana grew by less than 25%; in the recovery our advance has been more in line with the nation's--a 36% increase in nominal personal income.

The result of these differential growth rates was a decline of Indiana's share of the nation's personal income from 2.38% in 1979 to 2.11% in 1982. Since then, during the long expansion, our share has fallen to 2.04%--and it hit a new low of 2.03% during the third quarter of 1987.

Table
Nominal Growth Rates in Personal Income

	Recession 1979-1982	*Recovery 1983-1987*
United States	39.7	39.9
INDIANA	23.9	35.9
Illinois	29.7	34.3
Kentucky	33.2	32.4
Michigan	17.7	41.3
Ohio	27.1	34.0
Wisconsin	31.8	37.4

The Year Ahead

This year should see continued gains in the Indiana economy. Total employment should advance by nearly 80,000 jobs, with more than 80% of the gains made in nonmanufacturing businesses. Real personal income will also rise, led by gains in real wages and salaries.

These gains, however, will not be sufficient to stop the decline in the Hoosier state's share of U.S. personal income. Despite gains expected here, the nation's economy will expand even faster because many of the export sectors currently finding success in foreign markets, such as computer and communications equipment, are not heavily represented in Indiana.

The picture for the state is clouded by the uncertainties created by the drought conditions, which appear to have had a disproportionately adverse effect here. High farm commodity prices do not promise higher incomes, especially if the crop damage cuts severely into yields. Farm proprietors' income, nearly $1

billion a year, is no longer a major factor in the state's total personal income (approaching $80 billion), but total farm spending reaches into many sectors in many parts of Indiana. In addition, the high profile of farm distress tempers the outlook held in many businesses and county seats across the state.

Because the state is composed of different areas subject to widely diverse influences, we offer the following regional reports. It is our hope someday to have comprehensive coverage of the state. Each issue of this Outlook edition brings letters from readers who protest the exclusion of their counties as our writers focus on the major metropolitan areas. We are working toward the day when all areas will be included, and we beseech the patient indulgence of those currently neglected.

Indianapolis

Robert Kirk

Professor of Economics, Indiana University-Purdue University at Indianapolis. Data assistance provided by Ron Martin, Indiana Department of Employment and Training Services

Assuming that the Federal Reserve takes an accommodative position toward the national economy, the Indianapolis metropolitan economy should expand at a 3-4% employment growth rate. If the Federal Reserve shifts to a restrictive policy, then interest rate sectors, such as housing, would be negatively affected, and the rate of expansion could fall to the 2-3% range. The inventory of housing to be absorbed is at its highest level of the 1980s. For multifamily units the rate is above 10%. The single-family rate to be absorbed is increasing, but from a much lower level.

Looking further ahead, a reversal of some of the forces that prevailed during the early 1980s is possible. The dollar's appreciation led to a necessary corporate restructuring in manufacturing; consumers raised their standard of living by importing goods; employment growth, basically in the nonmanufacturing sector, also increased. These trends helped push Indianapolis (along with the Elkhart area) to the lead in population growth, in part by drawing Hoosiers from other areas of the state.

Since the dollar has now depreciated against many foreign currencies, inflationary forces may become stronger, manufacturing firms with export markets will experience gains in profits, and the rate of total employment growth may be slowed. It is easier to raise output via productivity growth in manufacturing than it is in the service industries. As demand for manufactured exports and capital goods increases, output can be increased via both productivity growth and employment increases. Steel and autos are good examples of industries that have raised labor productivity significantly during the 1980s.

Some of the gains in labor productivity in manufacturing arose from manufacturing firms contracting out services to specialized firms that had taken advantage of economies of scale and markets that had reached a threshold size. Thus, some of the decline in manufacturing employment was offset by increases in the service sector, particularly in business services. Business services tend to be located in urban areas; this sector has been a primary contributor to Indianapolis' employment growth.

While the manufacturing sector was under pressure to restructure under an appreciating dollar, firms in the service sector may come under increasing pressure to restructure under a depreciated dollar. It is possible that the service sector may not be as strong an engine of employment growth in the short term as it had been earlier in the 1980s. For Indianapolis this point is important, because the city's employment growth has come from nonmanufacturing--primarily business services, health services, construction, and retailing.

Construction

Major construction projects scheduled to begin during the second half of 1988 include the Circle Centre (downtown) Mall, the State Office Building complex, and the Eli Lilly & Co. Laboratory. Major ongoing projects will also contribute to construction employment.

A major question is whether the office buildings will be occupied. Expansion of local firms will not fill the existing space plus the new space being completed; efforts are being made to attract tenants from outside of Indianapolis. Analysis of Indianapolis employment change by occupation indicates that the growth of professional occupations, such as engineers, architects, physicians, dentists, lawyers, and public relations specialists, has been rapid. However, employment growth in the executive, managerial, and administrative occupations has been slower. These are the types of occupations associated with corporate headquarters. St. Louis, an area that has not done as well as Indianapolis in personal income, has experienced a much larger increase in employment in the executive, managerial, and administrative occupations. There are ten major national headquarters in St. Louis. Moreover, firms are increasingly evaluating the extent to which women have access to executive or professional jobs in metropolitan areas. St. Louis, Cincinnati, and Columbus have experienced larger employment increases in executive occupations for women than has Indianapolis.

As high-rise office buildings have been constructed (particularly downtown), a need for multi-story automobile parking structures has arisen. Responses to this need have been given. Developers have taken into account the vertical movement of people in office towers via elevators and the vertical movement of cars via garage ramps. However, at certain times of day people and cars exit these structures in large numbers. Since

there is no price-rationing mechanism to allocate the scarce street space, the result can be (and usually is) traffic congestion. The cost to the automobile occupant is the opportunity cost of his or her time--which varies among persons. As commercial and residential areas have developed, farm-to-market roads have been converted to commuter highways. Neighborhood residents are becoming increasingly vocal about the evolving traffic patterns. One function of an urban area is to promote contact and communication. Citizens are beginning to express concern about the location and intensity of development, and pressure for infrastructure improvements continues to mount. A delicate balance must be struck between the benefits and costs of development.

Comparative Metropolitan Performance

Recent U.S. Department of Commerce estimates of personal income by metropolitan area are presented in the **Table**. It indicates that Indianapolis has done well within its region. In fact, even high-growth San Jose has not done much better in terms of rates of change. San Jose is a metropolitan area in which high land costs have forced land-using production facilities to relocate outside the area while leaving research and product development within the city. Indianapolis does not have that problem, but strong commercial and residential construction growth has reduced the supply of prime, highly accessible sites. The Table also illustrates the variation in the way urban areas are affected by national economic change, as well as the way they respond given different mixes of industries and competitive positions.

It must be remembered that the national economy remains the driving force behind the Indianapolis economy; we are not self-sufficient.

As Indianapolis evolves as a state, regional, and national center, it takes on new types of activities that provide new visibility and vitality. However, it must be remembered that the national economy remains the driving force behind the Indianapolis economy; we are not self-sufficient.

Table 1
Per Capita Personal Income Change, 1984-86, for Selected Metropolitan Areas by Rank

Metropolitan area	*Per Capita Personal Income (by rank)*		*Total Personal Income (percent change)*	*Population*
	1984	1986	1984-86	
INDIANAPOLIS	94	83	14.4	1.5
Chicago	38	37	12.0	0.5
Cincinnati	103	86	13.6	0.7
Columbus, Ohio	122	101	14.6	1.9
Detroit	49	40	16.2	0.3
St. Louis	52	54	12.8	1.4
Boston	20	15	17.2	0.1
Dallas	19	28	15.5	7.8
San Jose	6	5	15.6	1.7

Source: U.S. Department of Commerce, Bureau of Economic Analysis

Muncie

Robert Jost

Professor of Economics, Ball State University

Muncie recently celebrated the grand opening of the downtown Horizon Convention Center. Architecturally attractive in its own right, the present Horizon Center was transformed from a formerly vacated post office building located in the heart of the city. Across the street from the Horizon Center, the Radisson Hotel (formerly the old Roberts Hotel), after several false starts and a recent flirtation with bankruptcy, is finally completing its long-planned expansion that will enable it to adequately complement the Horizon Convention Center.

Two years ago, when these proposals were being made (see the *IBR*, July 1986), this observer indicated that the ventures were relatively risky, but that a successful entrepreneurial city must be willing to take the risks associated with innovation and share power with the private sector to facilitate economic development of the decaying downtown area. These developments do represent a monument to what business, government, and labor--in short, the community--can accomplish by working together. In the judgment of this writer, even assuming good management they still remain risky ventures, and only time will provide the final answer as to their viability. Without these attempts, however, Muncie would end up a suburban sprawl around a decaying city center.

The metamorphosis of the downtown silhouette is quite impressive. The Minnetrista Cultural Center, financed by the Ball Brothers Foundation, is located on a bluff overlooking the White River near the northern end of the downtown area.

This magnificent structure is now nearing completion. Also nearing completion is the attractive downtown office building that will house the business offices of the Ball Brothers Foundation and the George and Frank Ball Foundation.

The construction of a new jail and justice center now has a green light, and plans for a new city hall, a professional office building, and riverfront development are in the making.

Demographic Trends and Projections

Between 1980 and 1985, the Muncie MSA experienced a net out-migration that more than doubled its low natural rate of increase, resulting in a 4.4% decrease in population. A substantial portion of this decrease was in the relatively high-earning 35-44 and 45-54 age groups. Anderson suffered a comparable out-migration during the same period and a consequent 3.9% population decline; the state of Indiana managed to achieve a meager .25% increase during this period.

Based on some rather primitive advance indicators of population change, this analyst reported in 1985 that the gap between the net out-migration and the natural rate of increase appeared to be closing. However, these indicators turned negative again in 1987, and recent population data suggests that some exodus continues--although it is below the rate of decrease in the 1980-85 period. Recent data provided by the Indiana Business Research Center and the Indiana State Board of Health project a 1.6% loss of population for the Muncie MSA between 1985 and 1990. Figures for Anderson for the same period project a 1.3% decrease. As 1990 is relatively close at hand, one would expect these projections to be close to the actual mark. The Anderson population total in 1990 would thus exceed Muncie's by 11,000. On the other hand, the far more risky long-range projection to 2020 has the Muncie population surpassing that of Anderson. Muncie's population is projected to decline by 1.6% between 1980 and 2020, whereas Anderson is projected to experience a 10.7% population decline. While one must treat such projections with great caution, the direction of the changes--if not the actual magnitudes--dovetail with the concern expressed by this analyst that Anderson will be unable to find comparable replacement jobs for the high-paying manufacturing jobs being lost at its General Motors plants.

Employment and Income

Using the more reliable establishment employment data, **Figure 1** indicates that employment in Muncie peaked in 1979 and troughed in 1982. Projecting for 1988 from first quarter data, total employment will probably exceed the 1979 peak this year. Anderson employment remains substantially below its 1978 peak, and current data provides little evidence of improvement. On the other hand, **Figure 2** makes it obvious that for the state of Indiana as a whole, establishment employment already substantially exceeds its 1979 peak.

As the **Table** indicates, personal income gains for Muncie and Anderson MSAs were substantially below those of the state. There is much more variation between percentage changes in the payroll and personal income figures than one might be inclined to expect. In the December 1987 *IBR*, this analyst used the then-available payroll data as a proxy for the 1985 and 1986 personal income data. Using actual personal income data significantly alters the findings of the above cited article.

Deflating the above personal income figures into constant dollars and calculating the annualized real rates of growth for 1979-86 results in a limp .9% growth per year for both Muncie and Anderson. The state of Indiana, on the other hand,

Figure 1
Anderson and Muncie MSAs
Establishment Employment

Source: Indiana Department of Employment. 1988 figures are first quarter averages.

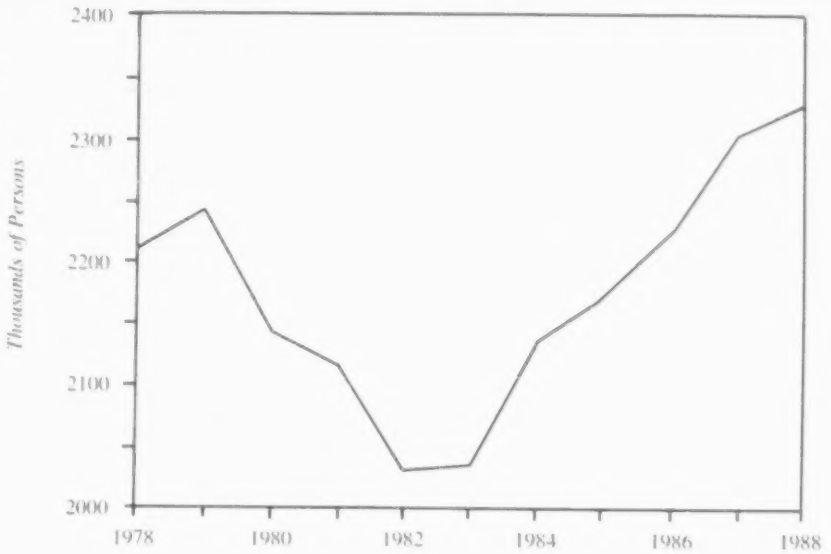
Table
Indiana, Delaware, and Madison County
Personal Income and Payroll (in $000,000s)

Year	*Indiana Payroll*	*Growth*	*Personal Income*	*Growth*	*Delaware Payroll*	*Growth*	*Personal Income*	*Growth*	*Madison Payroll*	*Growth*	*Personal Income*	*Growth*
1974	15910.6		27776.0		384.6		612.7		492.8		725.8	
1975	16211.6	1.9%	29815.7	7.3%	371.9	−3.3%	645.6	5.4%	486.9	−1.2%	772.0	6.4%
1976	18229.5	12.4%	33205.7	11.4%	410.3	10.3%	702.5	8.8%	568.1	16.7%	868.3	12.5%
1977	20562.9	12.8%	37074.9	11.7%	461.7	12.5%	798.8	13.7%	633.5	11.5%	963.2	10.9%
1978	25382.8	23.4%	41294.4	11.4%	541.6	17.3%	876.8	9.8%	730.2	15.3%	1034.9	7.4%
1979	28078.2	10.6%	45732.5	10.7%	601.0	11.0%	966.0	10.2%	766.5	5.0%	1121.0	8.3%
1980	28845.1	2.7%	49234.6	7.7%	622.3	3.5%	1058.5	9.6%	720.2	−6.0%	1188.9	6.1%
1981	31185.4	8.1%	54111.0	9.9%	658.7	5.8%	1142.0	7.9%	785.1	9.0%	1290.9	8.6%
1982	31072.6	−0.4%	56488.0	4.4%	633.6	−3.8%	1130.0	−1.1%	736.5	−6.2%	1261.0	−2.3%
1983	32445.5	4.4%	58925.0	4.3%	675.3	6.6%	1189.0	5.2%	814.5	10.6%	1344.0	6.6%
1984	35573.8	9.6%	65104.5	10.3%	735.3	8.9%	1360.9	14.5%	947.0	16.3%	1594.4	18.6%
1985	37699.7	6.0%	68391.2	5.2%	767.6	4.4%	1415.9	4.0%	1008.2	6.5%	1671.7	4.9%
1986	39789.5	5.5%	72282.7	5.7%	815.0	6.2%	1495.2	5.6%	1029.6	2.1%	1732.0	3.6%
1987	41696.4	4.8%	76275.0	5.5%	841.7	3.3%			1001.9	−2.7%		

grew at an annualized 1.26% real rate, roughly half the national growth rate.

What does this demographic, employment, and personal income data tell us? First, it makes it clear that employment numbers do not constitute an adequate proxy for economic growth. Muncie lost roughly 5% of its population between 1979 and 1986, yet its employment figures are about to exceed their 1979 peak. But real personal income has experienced a minuscule rate of growth. Clearly the two-breadwinner families must have grown at a prodigious rate, and possibly the number of individuals holding two job as well. However, the new service jobs are not paying nearly as well as the old manufacturing ones. Between 1979 and 1986, Muncie and Anderson's manufacturing employment decreased 28% and 24% respectively--more than double the decline experienced by the state. There apparently has been a relative real decline in the well-being of a large segment of the Muncie and Anderson labor forces.

Figure 2
Indiana Establishment Employment



Source: Indiana Department of Employment; 1988 figure is average of first quarter.

Richmond-Connersville-New Castle

Ashton Veramallay

Director, Center for Economic Education, Indiana University East

The Richmond-Connersville-New Castle (RCNC) area economy will continue its slow-to-moderate growth rate in the remaining quarters of 1988. The expected shock waves of last October's stock-market crash have not materialized. As the national economic expansion rolls on, RCNC will follow in its path.

Nationally and locally, consumer confidence is on the rise. Consumers are not curtailing spending on big-ticket items such as automobiles, homes, appliances, entertainment sets, and furniture. Their reentry into the market augurs well for the retail sector, which employs a significant proportion of the local labor force. Further, real personal income gains and tax refunds, along with a "no-recession" syndrome, will enhance consumer spending. As Hoosiers pursue the "Wander Indiana" and "Back Home Again" slogans, their spending will help the retail sector, especially catering and recreational outlets.

Consumers' reentry into the market augurs well for the retail sector, which employs a significant proportion of the local labor force.

Producer confidence is also rising. Investment in plant and equipment may not be as strong as it was in the early phases of the current recovery, but it will still add to stability in the manufacturing sector--the economic backbone of RCNC. Most local activity in this sector generates basic components for the transportation industry. If this industry experiences a slowdown, adverse effects on regional employment, income, and output will inevitably follow.

Despite the relative back-to-normal patterns in the consuming and producing sectors, poverty has increased in RCNC. About 38% of the families earn less than $15,000 per year; only 2% make $50,000 or more. Most of the families earn between $15,000 and $35,000 a year. Given the high dependency ratio, these poverty statistics must be reversed if the area is to avoid the long-term consequences of transfer payments. Moreover, about 40% of the region's population 25 years and older do not have a high school education, which will undoubtedly frustrate economic development. In the short run, however, this phenomenon will not have any perceptible effect on the midyear economic outlook.

Columbus

Patrick M. Rooney

Assistant Professor of Economics, IUPUI Columbus

Fourth quarter data (IV Q) revealed a slight deterioration in local economic conditions from the third quarter (III Q), but 1987 represented an improvement over 1986 in most areas (see the **Table**). The number of persons employed locally has remained fairly stable, growing only 1% from 1986 and 3% from III Q. While both the number of persons unemployed and the unemployment rate increased somewhat from III Q to IV Q, they both fell by one-fourth from year-end 1986. Additionally, the just-released unemployment rate for March was 4.8%, down

Table
Columbus-Area Data

	1987 IV Qtr.	*1987 III QTR.*	*% Change*	*1986 IV Qtr.*	*IV Qtr. 1987-1986*
Employment Data:					
No. of Persons Employed	30,167	29,233	3%	29,833	1%
No. of Persons Unemployed	1,567	1,433	9%	2,100	−25%
Unemployment Rate	4.9	4.7	4%	6.6	−26%
Continued Unemployment Ins. Claims	1,348	1,287	5%	2,521	−47%
New Unemployment Ins. Claims	366	246	49%	496	−26%
Utilities:					
Industrial Electricity Sales (million Kilowatt hours)	21,973	25,404	−14%	19,112	15%
Housing Construction Data:					
Estimated Value of Permits Issued (000's)	973	2,469	−61%	1,464	−34%
No. of Permits Issued	12	55	−78%	40	−70%
Avg. Value per Permit (000's)	81.1	44.9	81%	36.6	122%
Residential Real Estate Data:					
No. of Active Listings	444	520	−15%	699	−36%
Average Days Listed (solds)	130	136	−4%	127	2%
Average Market Price	63,762	62,921	0%	58,566	7%
Sales Data:					
Retail Cars—New	417	602	−31%		
Retail Cars—Used	2,042	2,817	−28%		

from 6.5% a year ago. Unemployment insurance claims--both new and continuing--exhibited similar trends. More worrisome is that both measures of unemployment insurance claims continued to increase in first quarter 1988 (I Q). However, these figures are still well below IV Q 1987.

The local economy largely depends on manufacturing jobs, which tend to be pro-cyclical. That is, when the national economy is doing well, Columbus does even better; as the national economy suffers a slowdown, Columbus is hurt even worse. As can be seen in the **Figure**, during the recession local unemployment rates far exceeded the national and state rates. As the national economy has recovered, however, the local economy has prospered, with unemployment rates falling below both the national and state rates during the past year.

Although housing construction was down in IV Q, 1987 represented the peak of housing construction since 1979. Along with the increased supply of new homes, however, Bartholomew County residents have been confronted with a 22% increase in the average price of new homes in the past year and a 61% increase since 1980. This increase can be linked to interest rates and consumers' willingness to buy bigger, more expensive homes. Although the overall supply of residential real estate was down 36% from IV Q 1986 to IV Q 1987, the 7% increase in average market price of listings sold indicates that local housing demand remains strong.

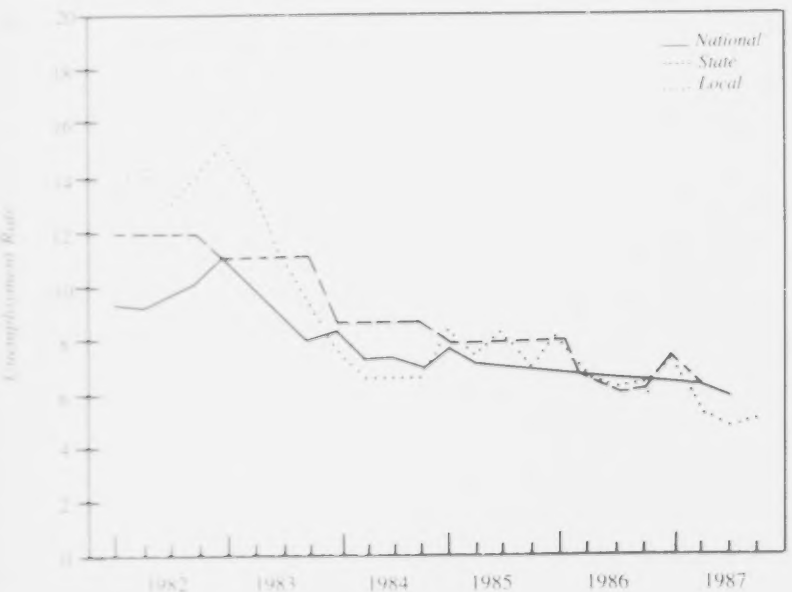
Both the estimated value of and number of permits issued for new-home construction are down significantly from both III Q 1987 and IV Q 1986. The decline from III Q 1987 largely reflects seasonal variations, as the III Q was up substantially from both the II Q 1987 and III Q 1986. The decline from IV Q 1986 to IV Q 1987 can be attributed to the fact that the IV Q 1986 fell fairly early in the local residential boom. Although demand is still strong, the IV Q 1987 results probably reflect a slowing of the frenetic pace established earlier in the recovery.

As long as the Federal Reserve Board continues to walk the tightrope between inflation and recession, Columbus can expect continued good fortune. The announcements by several firms to either build new plants or expand existing facilities bodes well for our continued growth and prosperity. As new firms build and other firms expand, the diversification will diminish (somewhat) the local sensitivity to national and international fluctuations.

Wages in the service sector, both nationally and locally, are likely to be bid up as the recovery continues. First, services cannot be stockpiled, making it more difficult for these firms to withstand a strike. Second, service wages have to compete (to some degree) with manufacturing jobs that offer higher pay. Third, most service firms do not face international competition to keep wages down. Therefore, wage pressure may be stronger in the service sector than in manufacturing. This is best exemplified by the "Massachusetts Miracle." The economy of Massachusetts has improved greatly from the days of dying firms and plant closings, but its very growth has led to a 2.9% unemployment rate and a labor shortage. Now short-order cooks and counter help receive $10 per hour--twice what they were paid only two years ago.

Finally, the anticipated further decline of the dollar relative to the yen and the currencies of most of our trading partners should help local manufacturing firms recover and even expand their share of the market both domestically and abroad. In fact, this may be a good time for local firms that have lost market share to foreign producers to go back to wholesalers, retailers, and producers to ask for a second chance. To retain this

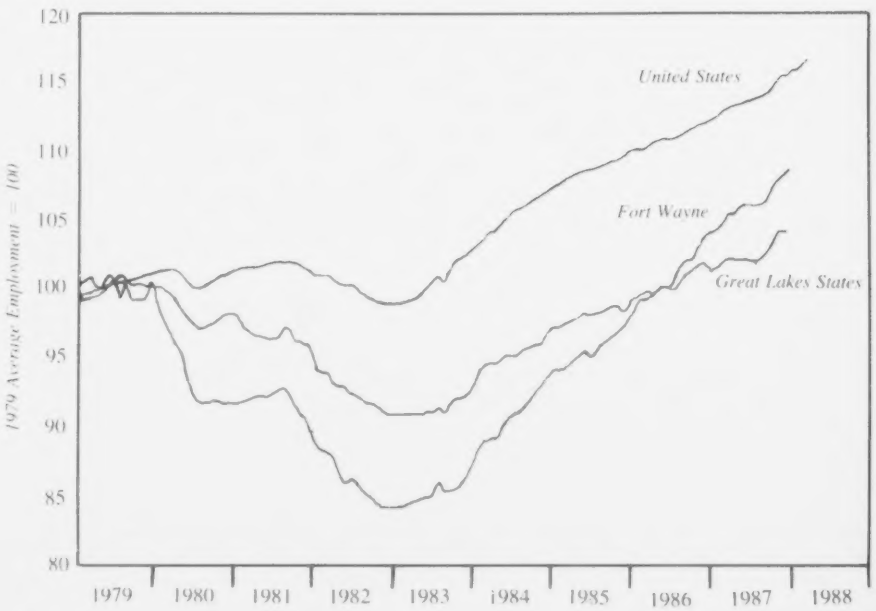
Figure
Unemployment Rates:
National, State, and Local



The state unemployment rates for 1982 to 1985 are yearly rates.

competitive advantage in the long run, however, domestic producers must invest not only to expand productive capacity but also to enhance productivity and quality. If local firms make such investments, then they will be able to capitalize on relatively cheap labor (given the value of the dollar) that is also highly productive. This winning combination could generate an industrial renaissance both locally and throughout the United States.

Figure
Nonagricultural Payroll Employment
United States, Great Lakes States[1] and Fort Wayne



[1] Illinois, Indiana, Michigan, Ohio and Wisconsin.

Fort Wayne

Thomas L. Guthrie

Director of the Community Research Institute and Associate Professor of Business and Economics, Indiana University-Purdue University at Fort Wayne

The original 1988 economic forecast for the Fort Wayne metropolitan area (*IBR*, December 1987) was for payroll employment to expand 2-3%, with all of the increase coming in the last half of this presidential election year.

The forecast was painted on a background of the October 1987 stock-market crash. Currently the crash damage appears to have been limited to the financial markets--an outcome I did not foresee last October.

Consequently, the Fort Wayne area economy continues to expand. Seasonally adjusted nonagricultural payroll employment increased from 189,400 last December to 194,400 in May. The outlook for continued increases in employment through the remainder of the year remains a mixed bag. On the negative side, area construction activity remains high, but is not likely to be a source of increased economic activity given the current trend in interest rates. Ditto for the transportation sector: to forecast further increases in auto and truck sales against a backdrop of rising interest rates and a four-year buying spree appears euphoric. Defense-related employment in the area remains on the defensive, because of seemingly intractable federal budget deficit problems.

On the plus side is the area's continuing success in economic development. For the 1982-1987 period, Fort Wayne area employment grew at a 5.2% annual rate, compared with 3.2% and 2.8% for the United States and the Great Lakes region (see the **Figure**).

As detailed in the original forecast, the dramatic drop in the foreign-exchange value of the dollar will continue to benefit the Fort Wayne area substantially.

One caveat relative to increasing exports locally is the need to have local, efficient access to world markets. This is why the debate over the refurbishing and upgrading of the Baer Field facilities is so critical to the long-run economic health of the area.

In summary, the initial employment forecast for the Fort Wayne area in 1988 appears likely to be low, given a brighter first-half economy nationally than originally forecast. Employment growth for the year of 4-5% is more likely.

However, the fragility of the forecast resulting from economic crosscurrents and presidential election-year rhetoric remains.

Evansville

Maurice Tsai

Professor of Economics, University of Evansville

In 1987, the Evansville economy remained active but did not perform better than in 1986. The original projection of 1.4% growth did not materialize; instead, the Evansville Area Business Index (see the **Table**) dropped .5%. The decline was caused by a slowdown in both public and residential construction. However, two major sectors--industrial production and trade and services--showed solid improvement, thereby offsetting most of the slowdown caused by construction.

Public construction, including the Lloyd Expressway and a new airport terminal, is currently going strong in the region. Both projects are expected to be completed in the latter part of 1988. The decline in residential construction, beginning in the middle of 1987, was triggered by higher mortgage rates. Thus the construction index in 1987 stood at 131.46, which still is high compared to most other years in the 1980s. A further tapering-off in construction activities is anticipated in 1988.

Industrial production was one of the strong sectors in 1987. Its index rose 3.9%, the largest gain in the 1980s. No labor disputes occurred in the year. Manufacturing employment in primary metals, chemicals, and rubber and plastics increased, while employment in the furniture industry declined. Total manufacturing employment remained about the same as in 1986, but the activity level rose because of improved efficiency. Manufacturing employment's share of the labor force dropped to 24.4% from 1986's 24.9% figure. Trade and services gained in 1987, posting a 4.1% growth in its index. Trade employment increased 7.5%, with a majority of the increase in retails. Employment in the service sector gained 6.2%. The health-service sector, which suffered an overexpansion and layoffs a few years ago, showed 2.2% employment growth. Therefore, industrial production and trade and services, which together comprise about 70% of the income generated in the region, performed strongly to sustain the region's economy in 1987.

The transportation sector weakened somewhat in 1987. Air-passenger loading remained at the same level as in 1986. The financial sector began with a strong performance, but it slowed down in the second part of the year as interest rates rose.

The regional employment picture was mixed in 1987. The labor force and employment both declined, while the unemployment rate rose. Nonagricultural wage-and-salary employment increased from 123,200 in 1986 to 125,300 in 1987, which caused the employment index to rise by 2.0%. The decline in employment and the increase in nonagricultural payroll employment means that agricultural and self-employment declined by

Table
Evansville Area Business Index
(1977 = 100, Revised)

Period	*Industrial Production*	*Trade & Services*	*Construction*	*Transportation*	*Finance*	*Employment*	*Composite Index*
Quarterly Index							
1987 1Q	122.20	113.14	134.98	97.33	108.91	107.73	116.42
2Q	121.23	115.42	139.80	97.97	108.79	108.33	117.41
3Q	120.47	115.27	134.50	98.86	109.32	110.05	116.92
4Q	118.37	117.13	116.56	98.02	112.92	111.97	115.56
Annual Index							
1984	114.99	106.01	103.66	95.03	106.16	103.76	107.95
1985	113.42	108.87	108.70	99.16	105.29	106.82	109.44
1986	116.04	110.70	174.44	99.48	109.91	107.36	117.24
1987	120.57	115.24	131.46	98.04	109.98	109.52	116.58
1988 (proj.)	124.00	118.70	120.00	99.50	111.50	111.00	118.10
Annual Growth Rates (%)							
1985	−1.4	2.7	4.9	4.3	−0.8	2.9	1.4
1986	2.3	1.7	60.5	0.3	4.4	0.5	7.1
1987	3.9	4.1	−24.6	−1.4	0.1	2.0	−0.5
1988	3.0	3.0	−9.0	1.5	1.4	1.4	1.3

Source: School of Business, University of Evansville.

about 40% in 1987. The unemployment rate climbed from January's 7.1% to 8.3% in May, declining to 6.4% in December. For the entire year the unemployment rate (7.1%) stayed higher than the national and Indiana rates (6.2% and 6.4%).

The regional employment situation should improve further, with unemployment rates staying in the range of 6.0-6.8%.

In the first two months of 1988, the regional economy revealed a strong performance in the major sectors: industrial production and trade and services. The construction sector continued its trend of tapering off. Total employment held its late 1987 level. The outlook for 1988 is another year of slow growth; no recession is anticipated, but the economy may experience 4-5% inflation as it is near the full-employment level. Industrial production and trade and services are both likely to grow by 2.5-3.5%. The construction index may drop another 10% as major public projects approach their completion. The transportation, finance, and employment indices should grow at a 1.5% rate. Since 1988 is a national election year, an easy money policy may erase the possibility of a recession. The regional employment situation should improve further, with unemployment rates staying in the range of 6.0-6.8%.

In summary, 1987 was stationary and 1988 will be a year of moderate growth. More economic growth can be anticipated after 1988, when the region will have completed massive improvements in its infrastructure. The real growth, however, depends on national economic trends and on how successful regional economic efforts are in attracting new firms and invigorating existing firms.

South Bend-Mishawaka/ Elkhart-Goshen

John E. Peck

Professor of Economics and Director, Bureau of Business and Economic Research, Indiana University at South Bend

This midyear assessment of the economic condition of the South Bend-Mishawaka and Elkhart-Goshen communities is based on the latest available economic indicators for the area (tracked by Indiana University at South Bend's Bureau of Business and Economic Research). A look at the indicators--particularly those relating to local employment--suggests that both communities continue to experience growth that outpaces the expectations reflected in the 1988 area forecast (*IBR*, December 1987).

The **Table** summarizes the various indicators of local economic activity. These figures are seasonally adjusted and, with the exception of the unemployment rates and real estate data, are index numbers expressed as a percentage of base-year values. Comparative indicators and percentage changes are given for January and February, 1988 and--to highlight trends--for a February 1988 to February 1987 comparison.

South Bend-Mishawaka

Nonagricultural employment in the South Bend-Mishawaka area increased 4.7% from February 1987 to February 1988. In absolute terms, 5,100 more persons were employed in February 1988 than in February 1987. After seasonal adjustment, the indicator had reached its historical high. As has been the case over the past several years, however, overall gains came in the nonmanufacturing sector: manufacturing employment rested at an historical low. The fact that the manufacturing indicator is resting at its low point, however, is seen here as an encouraging factor, since the index has fluctuated between 73 and 75 for some 24 months. This development follows a period of decline that extended over more than two decades. Lending support to this encouragement is the fact that the community has recently experienced a substantial increase in the number of manufacturing firms--up 21% between 1979 and 1985.

Other South Bend-Mishawaka indicators provide similar signals over the last several months: new housing activity continues to be strong, if somewhat less so than a year ago; resale housing transactions show additional moderation over the heady activity experienced over the past two years; and new passenger car sales remain soft. The monthly new car sales index number has come in under 100 in ten of the last 12 months.

Elkhart-Goshen

The pace of growth in the Elkhart-Goshen area continues to be the envy of most other areas in the state and the nation. Total nonagricultural employment was up 6.7% from February 1987 to February 1988, and both manufacturing and nonmanufacturing shared in the advance. Indiana's Department of Employment and Training Services has noted recently that this record places Elkhart County in the number-one position among the state's 13 Metropolitan Statistical Areas. Elkhart's gain in manufacturing employment (4,000 jobs between 1986 and 1987) was twice that experienced by second-place Fort Wayne; the remaining 11 MSAs lost 1,100 manufacturing jobs over that 12-month period. Every reported sector of the county's work force showed an increase in employment from February 1987 to February 1988.

The remaining Elkhart-Goshen indi-

Table
Economic Indicators

	SOUTH BEND-MISHAWAKA					ELKHART-GOSHEN				
				% Change from					% Change from	
	February 1988	January 1988	February 1987	January 1988	February 1987	February 1988	January 1988	February 1987	January 1988	February 1987
Employment Data										
Establishment Employment										
Nonagricultural Employment	128.3	126.1*	122.5	1.7%	4.7%	193.0	193.7	180.9	-.4%	6.7%
Manufacturing Employment	74.1	74.5	74.5	-.5%	-.5%	176.0	176.5	163.0	-.3%	8.0%
Nonmanufacturing Employment	159.0	155.7	149.7	2.1%	6.2%	218.1	218.8	207.5	-.3%	5.1%
Unemployment Rate	4.7	4.9	5.6	n/app	n/app	4.1	4.0	4.8	n/app	n/app
Help Wanted Advertising	132.5	148.2	129.2	-10.6%	2.6%	139.2	139.3	144.8	-.1%	-3.9%
Utilities										
Industrial Electricity Sales	171.9	167.4	160.0	2.7%	7.4%	217.1	216.8	219.3	.1%	-1.0%
Commercial Gas Sales	100.3	119.9	97.6	-16.3%	2.8%	104.2	124.3	97.0	-16.2%	7.4%
Industrial Gas Sales	66.3	73.7	62.6	-10.0%	5.9%	73.6	172.1	80.5	-57.2%	-8.6%
Retail Car and Truck Sales										
New Passenger Car Sales	76.3	70.0	89.8	9.0%	-15.0%	99.0	73.3	83.8	35.1%	18.1%
New Truck Sales	276.4	248.0	302.0	11.5%	-8.5%	146.7	142.1	129.6	3.2%	13.2%
Housing Construction Data										
Estimated Value of Permits	979.0	583.9	1,064.9	67.7%	-8.1%	577.2	351.9	912.1	64.0%	-36.7%
Number of Permits Issued	207.3	116.9	264.1	77.3%	-21.5%	118.8	130.9	206.1	-9.2%	-42.4%
Average Value Per Permit	523.8	536.6	445.9	-2.4%	17.5%	399.5	336.6	369.6	18.7%	8.1%
Residential Real Estate Data										
Number of Active Listings	1028	983	1077	4.6%	4.5%	1155	1114	1049	3.7%	10.1%
Closed Sales										
Average Days Listed	62	62	50	.0%	24.0%	80	80	83	.0%	-3.6%
Average Market Price	$58,874	$58,433	$54,794	.8%	7.4%	$60,421	$61,054	$54,743	-1.0%	10.4%
% of Sale to List Price	94.7	94.0	94.5	.7%	.2%	94.0	94.0	95.0	.0%	-1.1%

Index Numbers Seasonally Adjusted

cators are, again, quite similar to those of South Bend-Mishawaka. The new passenger car index continues to rest below 100, and the housing indicators--both new and resale housing--suggest better than average activity with some softening in recent months.

Outlook

Our earlier tentative suggestion that the nation--and, therefore, both South Bend-Mishawaka and Elkhart-Goshen--would avoid recession this year seems to be confirmed by the recent encouraging performance of the national economy. Growth of GNP and civilian employment have exceeded earlier moderate forecasts. Several situations in St. Joseph County, including layoffs in health services, education, government, and defense contracting, bear watching. However, we expect these to merely slow the pace of growth, not to push the South Bend-Mishawaka economy into recession. We feel that nonagricultural employment in South Bend-Mishawaka will rise by about 1% by year's end. In Elkhart-Goshen, however, activity should outpace that in both St. Joseph County and the nation as a whole, with employment growth coming in at a minimum of 3-4%.

Several situations in St. Joseph County bear watching. However, we expect these to merely slow the pace of growth.

Terre Haute

Marvin Fischbaum

Professor of Economics, Indiana State University

Last year was an eventful one. Bad news included the announced cessation of operations at three factories and the termination of the principal line at a fourth, reducing manufacturing employment potential by more than 10%. On the other hand, four factories released plans for capital-intensive expansions that promised a burst of construction activity.

Figure 1
Employment by Residence, Vigo County
(March of Each Year)

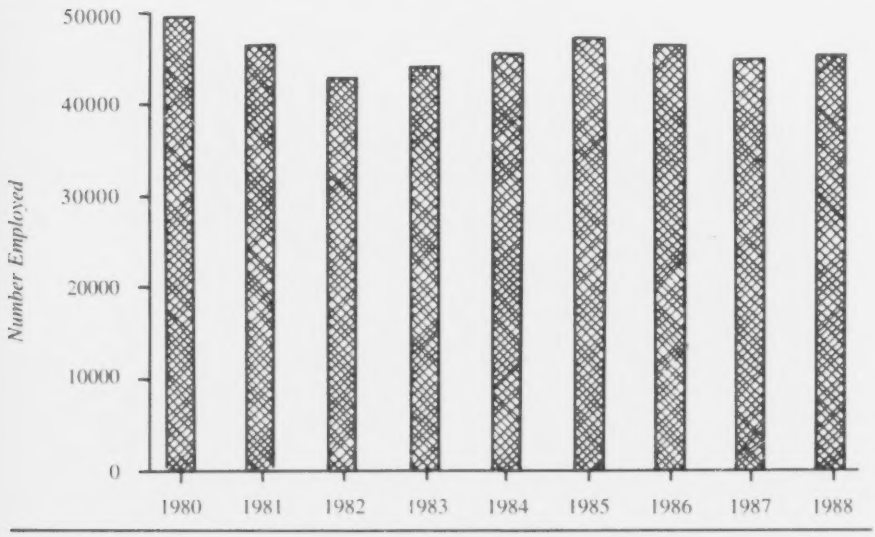
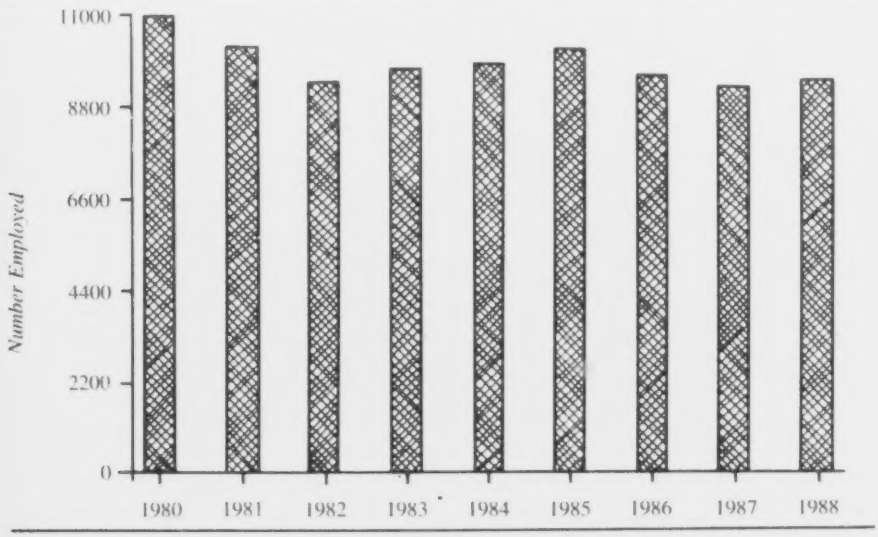


Figure 2
Employment by Residence, Clay County
(March of Each Year)



When the new facilities come on-line starting in late 1988, manufacturing employment will be modestly augmented. The first three quarters of 1987 saw both the unemployment rate and the number of jobs decline, a paradox explained by continued shrinkage in the labor force. Thus the outlook for 1988, a year sandwiched between a stock-market crash and a presidential election, seemed shrouded in uncertainty.

To date, events in 1988 have been less dramatic. Only one factory is closing--Indiana Gas and Chemical Corporation's coke plant. Following its sharp production curtailments in 1987, the shutdown will mean the loss of about 120 jobs. A few retail operations, including two Lowell's Supermarkets, have shut their doors. Some offices and retail shops, including a Wal-Mart, are under construction, as is the Cannon Inn, a 56-unit apartment complex geared to senior citizens, but no really large project has been announced. Nor has there been news of substantial industrial expansion.

The pace of economic activity in the Terre Haute area, at least as measured by employment estimates, has continued in 1988 on much the same path as in the previous year. Through March, unemployment estimates for the MSA (Vigo and Clay counties) continued, as in much of 1987, to run at levels at or slightly above the state and national averages. Unemployment in Vermillion County remained somewhat higher, and Sullivan County continued to experience the highest level of unemployment in the state; 13% for all of 1987, and 9.9% in April 1988. As was true six months ago, the trend in establishment employment (measuring employment by place of work) was more positive than the trend in the labor force estimate of employment (based on place of residence). But in contrast to shrinking employment through the first nine months of 1987, over the last quarter of that year and in the first quarter of 1988 the trend as measured by the labor force estimate was stable to slightly positive. As measured by establishment employment the trend was

strongly positive. By the latter measure, the loss of 500 jobs over the past year in manufacturing was more than offset by gains of 500 jobs in retail and wholesale trade, 300 jobs in transportation, 400 jobs in construction, and 500 jobs in assorted service occupations.

Construction was expected to be the bright spot in the Terre Haute economy for 1988, but the boom has been slow in coming. As measured by employment, construction activity has remained on a plateau. Perhaps the explanation is that some of the projects announced in 1987, including the Porcine Somatotropin facility at Pitman-Moore and the downtown parking garage, have just broken ground, while other construction, including buildings at I.S.U., is not yet underway. Enough commercial, industrial, and institutional work is still in the pipeline to keep construction activity fairly strong through 1988 and into early 1989. Little help will come from the residential sector: the demand for housing remains weak, and residential construction activity appears to be trending downward. The value of residential building permits in Vigo County for the 12 months ending March 1988 was 5% less than for the previous 12-month period, and the decline may be accelerating.

Construction was expected to be the bright spot in the Terre Haute economy for 1988, but the boom has been slow in coming.

The market for existing homes remains soft, with listings for the Terre Haute area totalling about 1,600. Homes remain listed an average of 176 days, the same as last year, and the average selling price in the first quarter of 1988 was slightly lower than in the corresponding period of 1987. This sluggishness reinforces the impression that although employment may be improving, the local economy is far from ebullient.

Figure 3
Employment by Residence, Sullivan County
(March of Each Year)

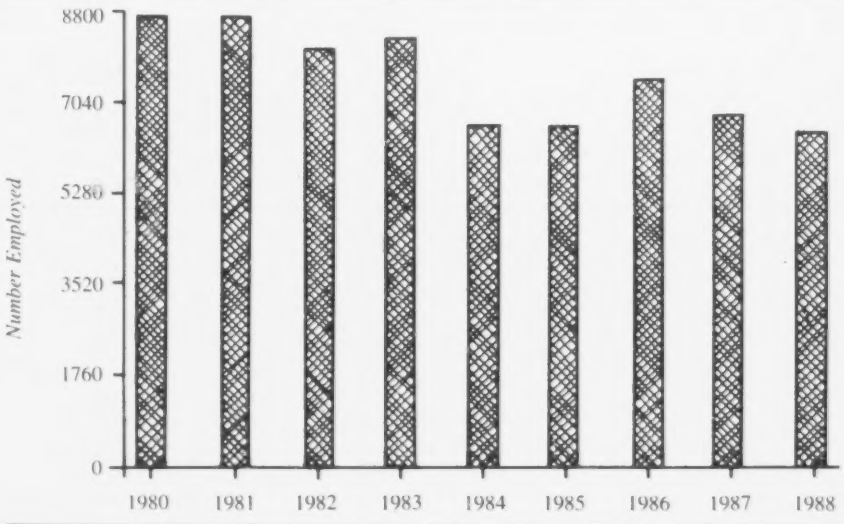
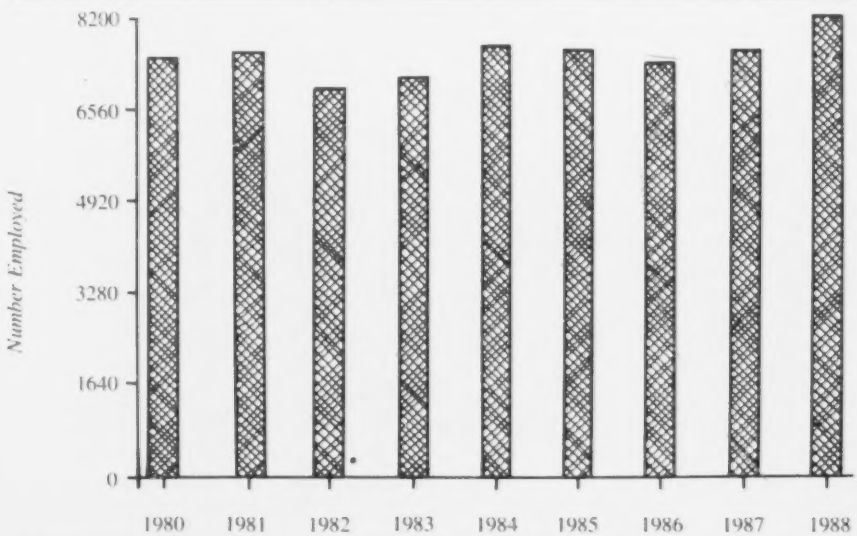


Figure 4
Employment by Residence, Vermillion County
(March of Each Year)



The **Figures** are intended to put the recovery of the Terre Haute area economy in a long-term perspective. They illustrate that the 1980s have been a period of protracted stagnation in total employment. Employment of residents of Vigo and Clay counties is lower today than it was in 1980. Employment of Sullivan County residents is at its lowest point of the 1980s. Only in Vermillion County, where Eli Lilly & Co. is the largest employer, is the trend positive.

In the first half of 1988, the U.S. economy performed near the upper limit of reasonable expectations. Given that environment, the Terre Haute area economy also improved. The region is still searching for at least partial replacement of its lost manufacturing base; unless and until that occurs, Terre Haute remains vulnerable.

Gary-Hammond-East Chicago (Calumet Area)

Leslie P. Singer

Professor of Economics, Indiana University Northwest

The Northwest Indiana economy is progressing along the path we had predicted six months ago. The manufacturing sector has stabilized, and the nonmanufacturing sector is gradually expanding. Average weekly hours worked in steel are in excess of 43 (reflecting overtime), and gross weekly earnings average over $650, the highest of any Indiana industry.

This sounds like good news, and it is. We must, however, point out that although we predicted stabilization in the local manufacturing sectors, we do not foresee much long-run growth. The nonmanufacturing sectors will, of course, continue to expand, gaining almost 2,000 new jobs by this time next year. In terms of a full-time equivalent (a 40-hour week), the 2,000 nonmanufacturing jobs, which are for the most part in retail and miscellaneous services, correspond to less than 1,500 jobs because average hours per week are below 30. Gross weekly earnings in nonmanufacturing are only slightly above $200, compared to $650 in steel.

Table 1
Short-Term Forecast (Quarterly Averages)

	1988 1Q	*1988 2Q*	*1988 3Q*	*1988 4Q*	*1989 1Q*	*1989 2Q*
Manufacturing Employment	55.6	56.8	56.4	55.8	56.8	57.0
Steel Mills	35.3	35.9	35.6	35.0	35.9	36.6
Other Manufacturing	20.3	20.9	20.8	20.8	20.9	20.4
Nonmanufacturing Employment	165.5	166.1	167.3	168.6	166.4	167.8
Construction, Transportation	10.5	10.9	10.9	10.7	10.4	10.9
Services and Trade	103.2	103.4	104.5	105.4	104.0	104.2
Public Sector	31.8	31.7	31.7	31.8	31.4	31.3
Health Care	20.0	20.1	20.2	20.7	20.6	21.4
Total Employment	221.1	222.9	223.7	224.4	223.2	224.8

Table 2
Establishment Employment Projections
(in 1000s)

	1980 Actual	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*
Manufacturing Employment	97.27	56.98	56.46	56.94	57.42	57.90	58.39	59.37	59.86
Nonmanufacturing Employment	159.33	167.38	168.91	170.32	173.03	175.78	178.58	181.42	184.30
Total Employment	256.60	224.36	225.37	227.26	230.45	233.68	236.97	240.79	244.16

We must put these economic developments in a global context. The rebound in local steel can be attributed about 35% or 40% to restructuring, reorganization, and improved productivity, and about 60% or 65% to lower export prices for steel (because of the depreciation of the U.S. dollar). In the long run (three to four years), I estimate that the improved competitive position of local steel in global markets will diminish as foreign currencies gradually adjust to new equilibrium levels. Consequently, to remain competitive local steel firms will have to modernize at an accelerated rate, in spite of rising costs of borrowing. In other words, local steel companies will have to draw on retained earnings to a much greater extent than they have been able to do in the past, when they suffered losses. The current rise in steel's profitability cannot become an inducement for labor to extract further wage gains. Moderation in both prices and wages is necessary to retain global market shares.

U.S. capital-goods industries and steel (a supplier of intermediate products) are currently benefiting from a flood of orders for machinery from Korea, Taiwan, and elsewhere. Foreign buyers wish to take advantage of the devalued dollar before revaluation occurs. In a perverse sort of way, the U.S. stock market's poor performance makes U.S. goods more attractive than dollar-denominated securities. This, in turn, boosts our exports of capital goods and communications equipment.

Northwest Indiana, as did many other parts of the country, suffered what must be considered a cultural shock when we realized how much our manufacturing leadership has slipped relative to foreign economies. There are many causes of this state of affairs. While most Western nations were busy building better and more powerful economies, the U.S. was busy building a better society. We are rightly proud of our accomplishments in this regard, but we must be prepared to bear the opportunity costs incurred in the process.

What should be clear to most of us is that the U.S. was advancing on two fronts while many of our trading partners did better on one of these fronts. Many local leaders belittled the expansion in the service sector by putting almost their entire emphasis on manufacturing, which has traditionally supplied secure, high-paying jobs for relatively unsophisticated populations.

However, there is a high-skilled, high-wage service sector as well as a low-skilled, low-wage service sector. The challenge for Northwest Indiana is to expand the high-skilled, high-wage sector, which until now we have failed to achieve. If we track high-skilled service sectors on the East and West Coasts, we note that average wages in many service sectors, such as finance, insurance, communications, and health sciences, are significantly higher than average earnings in steel. In many advanced economies, such as those of Japan or West Germany, incomes in the technologically and analytically sophisticated service sectors grow more rapidly than incomes in other sectors--including the manufacturing sector. We believe that Northwest Indiana can achieve a reorientation of its service sector by improving the quality of its human capital. One of the important findings of several industrial studies I have made is that in modern economics, improvement in the quality of human capital precedes improvement in the quality of physical capital. Moreover, just as local industries have discovered the absolute necessity of industrial quality control, our educational institutions must devise and implement methods of quality control for our stock of human resources.

The anticipated decline in Lake County's population will help us attain a better-balanced and a more sustainable growth economy. The anticipated decline in the number of young entrants into the labor force will match the expected slow growth in manufacturing. The anticipated increase in the older population will increase the demand for services, including high-wage financial health care, education, and other services. The ancient city of Venice had almost no manufacturing or agriculture. However, its service sector made that city one of the richest and most prosperous of the medieval world.

Short-run and long-run forecasts for this region are shown in **Tables 1** and **2**.

Jeffersonville-New Albany (Louisville Area)

Fay Ross Greckel

Professor of Economics, Indiana University Southeast

The seven-county Louisville metropolitan area economy grew at a more robust pace than expected during the last several months of 1987, and that rather brisk expansion has continued into early 1988 in most sectors. Preliminary data suggest that this trend will continue for the next several months, resulting in a stronger economy in 1988 than was predicted here six months ago.

Employment statistics are particularly encouraging, with gains reported in both manufacturing and nonmanufacturing, in both the Indiana and Kentucky portions of the metropolitan area. As **Table 1** shows, there was little or no employment growth during the first half of 1987. But about 14,000 jobs were added during the last six months of the year. (The third-quarter statistics published in this column in December were recently revised upward by the reporting agencies.) Seasonally adjusted data indicate gains of an additional 6,500 jobs during the first quarter of 1988--a very healthy start for the year.

For the first time in several years, the number of manufacturing jobs appears to

have increased. Preliminary figures for the first quarter of 1988 show a gain of about 800 manufacturing jobs from the same period of 1987. Most of the gains occurred in nondurable goods industries, particularly food and kindred products. About 200 of the new jobs were located in the Indiana portion of the metropolitan area (Clark, Floyd, and Harrison counties), reflecting the start of the Hitachi Cable plant in New Albany and increased employment in the metals/machinery and chemicals/allied products sectors. Clark, Floyd, and Harrison manufacturing employment, which had fallen to a low of 11,400 jobs in 1983, is now nearly back to the 1981 peak of 13,600 jobs.

Although the manufacturing increases are heartening, most of the employment expansion is still occurring in nonmanufacturing. Between the first quarter of 1987 and the first quarter of 1988, nonmanufacturing employment in the metropolitan area increased by an impressive 21,000 jobs. Job gains were about 7,000 in retail and wholesale trade, nearly 5,000 in the service sector, about 4,000 in the construction industry, about 2,000 each in government and in the transportation, communications, and utilities sector, and about 1,000 in finance/insurance/real estate. In the Indiana counties, job losses in construction and services were more than offset by job gains in trade and government em-

Table I
Louisville Area Employment and Unemployment, 1984-88[1]
(in 1000's)

Louisville Metropolitan Area[2]	*Total Nonfarm Employment*	*Manufacturing Employment*	*Nonmanufacturing Employment*	*Unemployment Rate %*
Annual Averages				
1984	396.7	89.2	307.6	8.6
1985	410.8	87.0	323.7	8.0
1986	421.2	86.2	335.1	7.1
1987	436.0	86.3	349.7	6.9
Quarterly Averages				
1987 1 Q	430.4	86.5	344.0	7.0
1987 2 Q	431.8	86.2	345.6	7.2
1987 3 Q	436.1	86.0	350.0	7.0
1987 4 Q	445.8	86.5	359.4	6.5
1988 1 Q	452.3	87.3	365.0	6.2
Clark, Floyd, and Harrison Counties				
Annual Averages				
1984	51.4	13.0	38.4	9.2
1985	53.4	13.1	40.3	8.1
1986	55.6	13.2	42.5	6.3
1987	58.3	13.3	45.0	5.9
Quarterly Averages				
1987 1 Q	58.0	13.2	44.8	6.1
1987 2 Q	57.9	13.1	44.8	5.9
1987 3 Q	58.3	13.3	45.0	5.9
1987 4 Q	58.8	13.4	45.3	5.6
1988 1 Q	59.0	13.4	45.6	5.0

1. The employment data refer to establishments located within the area cited; the unemployment data refer to residents of the area. Data are seasonally adjusted.
2. Includes Clark, Floyd, and Harrison Counties in Indiana and Jefferson, Oldham, Bullitt, and Shelby Counties in Kentucky.
Sources: Indiana Department of Employment and Training Services; Kentucky Cabinet for Human Resources.

ployment, for a net increase of about 800 nonmanufacturing jobs.

Employment conditions have improved in other ways as well. A few firms have converted part-time jobs to full-time jobs. Average weekly hours for factory workers increased in 1987 in 12 of the 13 manufacturing sectors (the sole exception was furniture and fixtures). Many new jobs are in technical fields, and some of the lower-paid jobs provide computer training. Local unemployment rates continue to decline steadily on a seasonally adjusted basis. According to government statistics, by the first quarter of 1988 the unemployment rate for Clark, Floyd, and Harrison counties had fallen to only 5%, while that for the whole metropolitan area had declined to 6.2%. Although many of these developments suggest a tightening labor market, labor shortages do not seem to be a problem in this region at present.

In line with the greater employment opportunities, demand for many emergency social services, while still considerable, is declining. Dare To Care, for example, supplied 76,300 emergency food allotments to area residents in 1987, compared with 82,200 in 1986. That was the second year of decline in emergency food requests, and the trend is continuing. Nearly 5% fewer individuals received emergency food allotments in the first quarter of 1988 than in the first quarter of 1987.

Contrary to national trends, residential construction was one of the stronger sectors of the local economy during 1987. As indicated in **Table 2**, Jefferson County, Kentucky--which includes the city of Louisville--issued permits for a record 3,169 residential units last year. In 1987 Floyd and Harrison counties issued the second highest number of residential unit building permits issued in this decade. As 1988 began, construction in the Indiana counties, particularly in Floyd County, still looked fairly strong, but there was a sharp decline in the number of permits issued in Jefferson County--largely because of a hiatus in apartment building. During 1987, in response to a very low apartment vacancy rate, permits were issued for more than 1,800 apartment and condominium units; the corresponding total for the first four months of 1988 was 67 units. While some increase is likely in the remaining months of 1988, this sector of the economy will be much weaker than in 1987.

However, commercial and industrial development should continue to flourish. Each year the Louisville Chamber of Commerce reports on major investment plans by new and expanding industrial and commercial enterprises. In 1986 these totaled a record $313.7 million for industrial development and $295.1 million for commercial development. Most of these projects were begun in 1987, and work on many of them is still underway. The Chamber's tabulation of major investment plans announced during 1987 was nearly double the record level of 1986: 644 firms announced expansion or development plans, totaling $767.6 million in the industrial area and $348.3 million in the commercial area. These projects are expected eventually to provide 17,255 new jobs, more than double the employment growth expected to result from the projects announced during 1986.

Development plans continue to invade the news. Recent examples include expansion of a major suburban mall; the decision of WAKO, a Japanese electronics firm, to locate its U.S. manufacturing and distribution operations in Louisville; and plans to build Stony Brook, the $800 million office-retail-theater-medical-retirement housing-apartment-new homes complex in southern Jefferson County, over the next six to eight years. Among the expanding firms is UPS, whose national hub is located at Louisville's Standiford Field, contributing to the surprising fact that the Louisville airport ranks eighth in the world in air cargo volume. (In the U.S. only New York, Los Angeles, Chicago, and Miami handle more air cargo than Louisville does.)

Despite higher interest rates, real estate sales have remained strong. According to the Louisville Board of Realtors, 1987 sales totaled more than $426 million, a 5.7% increase over 1986 (which was also a good year). During the first four months of 1988 reported real estate sales were substantially ahead of the same period a year ago, although some of the apparent gain may be the result of a change in data-reporting procedures.

It is very difficult to gauge consumer spending because of the lack of current data at the local level. However, retail sales jobs increased more rapidly during

Table 2
Louisville Area Residential Building Permits, 1984-1987
(Number of Dwelling Units)[1]

Period Covered	*Jefferson County, Kentucky*	*Clark County, Indiana*	*Floyd County, Indiana*	*Harrison County, Indiana*[2]
1984	2571	237	199	89
1985	3141	232	294	148
1986	2634	252	427	218
1987	3169	224	397	157
1985 1 Q	1406	85	126	47
1986 1 Q	734	53	103	56
1987 1 Q	1816	72	127	50
1988 1 Q	601	64	141	46

[1] *Number of residential units for which building permits were issued, including single-family dwellings, apartment units, and condominium units.*
[2] *Excluding Corydon.*
Source: Kentuckiana Regional Planning and Development Agency.

the last half of 1987 and the first quarter of 1988 than in the corresponding periods 12 months earlier, suggesting some improvement in that sector. Although new car sales declined sharply in 1987 as expected--down 17% in Jefferson County and 10% in Clark and Floyd counties--in the first quarter of 1988 area dealers sold about 13% more new cars and light trucks than they did in the first quarter of 1987.

The Louisville area economy performed considerably better than expected in the early months of 1988, and there is no indication of any serious reversals in the months ahead.

All in all, the Louisville area economy performed considerably better than expected in the early months of 1988, and there is no indication of any serious reversals in the months ahead. The major weakness appears to be multi-unit residential construction; it is difficult to tell at this time if this is merely a temporary pause in new construction or if most builders feel that the projects currently underway are sufficient for the present housing market. In either event, construction will continue on major projects begun last year, as well as on single-family dwellings and commercial and industrial projects.

With most economists predicting moderate expansion nationally and with exports expected to increase, the local economy should have support from most external markets for the remainder of the year. Thus, the revised outlook for 1988 is for a stronger economy overall than in 1987 despite the slowdown in apartment building. The widespread expansion could produce the largest annual increase in Louisville area employment since the late 1970s.

Anderson

Gilbert Crouse and Jerrald Fox

Professor of Economics, and Instructor of Business and Economics, Anderson University

The dismal double-dip slump of the early 1980s produced extremely high levels of unemployment in Madison County. Levels peaked at more than 22% in 1980 and again in 1982. The out-migration that began in the mid 1970s grew as the availability of jobs, particularly in manufacturing, diminished. From 1978 to 1982 manufacturing employment declined more than 34%, producing a wave of out-migration that contributed to a population decrease of 5,300 persons between 1978 and 1983.

If the labor force participation rate had not dropped from 44% in 1978 to 40.5% in 1982, the reported unemployment rates would have been even higher.

This out-migration combined with a significant number of early retirements and the drop-out of discouraged workers to produce an 11.4% decline in the labor force, a reduction of 7,000 workers. If the labor force participation rate had not dropped from 44% in 1978 to 40.5% in 1982, the reported unemployment rates cited above would have been even higher.

The period from 1983 through 1987 has seen a further reduction in the county's population by an estimated 5,100 persons. This second round of population decline occurred largely because the expansion of manufacturing employment from 1983 to 1985 proved to be weak and short-lived. From its low of 17,000 jobs in 1982, manufacturing employment rebounded to a post-recession peak of only 19,100 jobs in 1984 and 1985. Manufacturing had provided 27,400 jobs in 1974.

In 1986 manufacturing employment once again began to lose ground, and by 1987 it was almost back to its 1982 level. Based on the outlook for the national economy, conditions in the auto industry in general, and General Motors' problems in particular, our forecast for 1988 projects a decline of an additional 800 manufacturing jobs to an average level of 16,500 for the year.

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Manufacturing's Declining Role

Manufacturing employment provided just under 60% of all establishment jobs in Madison County in 1974. By 1987 its share of total establishment employment was less than 36%, and we are projecting that it will fall to less than 34% in 1988. This erosion in the relative share of manufacturing jobs is a consequence of the absolute loss of manufacturing jobs described above coupled with steady growth in the nonmanufacturing sector, particularly in the area of services--which has added over 2,200 jobs since 1979 and now accounts for nearly 20% of total establishment employment.

Due to these employment losses, manufacturing has contributed progressively smaller and smaller percentages of personal income at both the state and county levels. From a share of 58.5% in 1973, manufacturing income dropped to

less than 40% in 1987. We are projecting a further decline in 1988 to only 38%. For the state as a whole, manufacturing's share of personal income had dropped from 34% in 1973 to under 25% in 1987. Anderson and Madison County, along with the state, should see some improvement in the stability of income as their dependence on manufacturing declines, especially as this applies to the steel and automobile industries.

Income and Purchasing Power

Prior to the start of this decade, real total personal income had peaked in 1978. With the onset of recession in the early 1980s, real income dropped further. With recovery came relief, however; by 1984 real total personal income exceeded the 1978 high, despite the decline in manufacturing employment.

The speed of the recovery of income from the effects of the severe drop in employment in the early 1980s is surprising and encouraging.

The speed of the recovery of income from the effects of the severe drop in employment in the early 1980s is surprising and encouraging. It was possible in part because in 1984 manufacturing generated 112.5% more real income per worker than it did in 1978. More surprising, though, is that the amount of real income generated per worker in the nonmanufacturing sector rose in 1984 by 20.6% after falling by nearly 17% from 1979 to 1983. Best of all, this increase was possible in a year when nonmanufacturing employment was increasing by 2,000 workers.

For the state of Indiana as a whole from 1973 through 1987, nonmanufacturing income (in current dollar terms) grew at an average annual rate of 8.1%. For Madison County the growth rate has been 9.1% per year. With inflation (as measured by the GNP deflator) averaging 6.4% per year, real nonmanufacturing income has grown at an average annual rate of 3.1% over the 14-year period. A great deal of this growth in income from the nonmanufacturing sector has come from an additional 8,000 to 10,000 new jobs. But crude estimates suggest that at least one-third of the growth, perhaps as much as one-half, has been the result of increases in the amount of income generated per worker.

The period from 1978 to 1983 saw the nominal value of transfer payments more than double. Even after adjusting for inflation, this represented an increase of 28%.

Transfers and Non-Wage Income

Two other factors helped moderate the effects of the loss of manufacturing jobs. The period from 1978 to 1983 saw the nominal value of transfer payments more than double. Even after adjusting for inflation, this represented an increase of 28%. (Over the last four years the average annual real growth in transfers has declined to a much slower rate--1.5% to 2.5% per year.) Real non-wage income (dividends, rent, and interest) increased by 15% during this period. The accelerated growth of payments and non-wage income raised the former's share of personal income from 11% to 17.5% and the latter's from 12.7% to 16.8%. In the last four years, each has given up about one percentage point of its share of personal income to the nonmanufacturing sector. Although transfer payments are not an adequate substitute for jobs, their growth meant that the loss of total purchasing power in Madison County was not in full proportion to the loss of jobs that occurred. This observation is only aimed at assessing the amount of purchasing power available in Madison County economy, and should not be interpreted as minimizing the incredible distress and damage that the unemployed have suffered.

The Remainder of 1988

From 1973 to 1987 Madison County's overall growth rate in personal income lagged well behind that of the state. The county grew at an average annual rate of 6.7%, while the state grew at almost 8% per year. The county went from producing 2.7% of the state's income to only 2.3%, its share of the state's manufacturing income declined from 4.7% to only 3.6%, and its share of the state's dividends, interest, and rent declined from 2.7% to less than 2.3%. These declines were only marginally offset by the increase in the county's share of income generated in the nonmanufacturing sector, from 1.3% to 1.5%.

If present trends continue, within five years the nonmanufacturing sector will produce as much income as the manufacturing sector.

Today the nonmanufacturing sector of the county's economy accounts for twice as many jobs as the manufacturing sector. If present trends continue, within five years it will produce as much income as the manufacturing sector. With this increase in diversity and lessened dependence on manufacturing we should see an increase in the stability of employment. The big question is what effect this will have on the economy's growth potential. The likelihood is that we will see slower growth. However, if we compare the growth rate in Madison County real personal income from 1973 to 1979 with the growth rate from 1979 to 1987, we see an increase from a no-growth situation to an average annual

growth rate of 0.6%. The state as a whole experienced a slowdown from an average of 1.7% per year to 1.1% in those two periods. It would be foolish not to recognize the clear correlation between the magnitude of manufacturing's share and the growth rate of the economy. But we should also note the paradoxical fact that the county grew faster as its dependence on manufacturing declined. Also, the state achieved a tolerable growth rate in the last half of the 1970s with an economy that depended on manufacturing for only 32-34% of its personal income--a lower percentage than manufacturing's current 39% share in Madison County.

We project real growth in personal income for 1988 in Madison County of about 0.5%, despite the fact that we see a further decline of real income in manufacturing.

Assuming that the national economy stays on its present course, we project real growth in personal income for 1988 in Madison County of about 0.5%, despite the fact that we see a further decline of real income in manufacturing of a little over 4% because of the projected job loss. The projection of positive overall growth rests primarily on the strength of an additional 1,100 jobs in the nonmanufacturing sector--400 of which are expected to be added in retail trade and 200 in services. Despite a shrinking manufacturing base, business leaders in the county appear to expect to grow by becoming more competitive. Thus, area merchants have recently constructed and are now operating one new shopping mall on the east side of Anderson and are currently enlarging the one on the south side of the city bordering on Interstate 69. When this addition is completed, the Payless grocery store, already one of the largest establishments in this mall, will have doubled its floor space. The strategy of the expansion involves reclaiming some of the trade that has previously been siphoned off by Indianapolis, taking advantage of the market potential of the growing Interstate traffic, and enlarging the geographical area from which the local market draws.

It will take some time before we can assess how successful these attempts will be. At present, however, they are providing much needed additional construction spending and jobs. In addition, this strategy has already created 800 new jobs in retailing in 1986 and 1987, with the promise of additional jobs in the future.

Lafayette

Gerald J. Lynch

Associate Professor of Economics and Associate Director of the Purdue Center for Economic Education, Purdue University

Just as the Subaru-Isuzu plant dominates the landscape south of Lafayette, the impact of its arrival tends to overshadow the vibrant economic activity in the rest of the Lafayette area. Nevertheless, many other businesses are either operating at full capacity or expanding. The most visible sign of growth in the area is the low unemployment rate. In late spring, the unemployment rate for the Lafayette MSA dipped to 3.8%, the lowest it has been since local unemployment data were first recorded in the 1960s. Naturally, the strength of the national economy has affected a number of businesses favorably. For example, Alcoa has been at full capacity for some time, while the decline in the dollar has opened up foreign sales for Caterpillar.

Other factors, not related to national economic conditions, have contributed to a strong local economy. Wabash National Corporation has moved into the old National Homes facility and carved a significant niche for itself. TRW's Lafayette operations kept going after management and labor negotiated a new wage package.

Some of the construction activity is no doubt in anticipation of the economic activity that will accompany the plant's start-up. But there are other reasons why new construction is being initiated in Lafayette.

The dollar value of building permits in Tippecanoe County jumped by more than 25 percent from 1986 to 1987. This value does not include the permit for the Subaru-Isuzu plant. Some of the activity is no doubt in anticipation of the economic activity that will accompany the plant's start-up. But there are other reasons why new construction is being initiated in Lafayette. The city traditionally has a low unemployment rate compared to that of the rest of the state; with further stimulus from the new plant, the local economy should continue to be strong through the rest of 1988.

Important Renewal Card Enclosed

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